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JULY MCMXVI

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The American Journal of
CLINICAL MEDICINE
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The Value of A Code of Ethics

PERIODICALLY an eruption occurs in the medical societies, a tremendous fuss is kicked up, plenty of hard feeling engendered, and then the whitewashing committee gets in its work. Resolutions are passed that by their high-sounding phrasing and the unhumanly lofty principles enunciated, would have done credit to Thaddeus of Warsaw; and the accused member is acquitted, but with the admonition that he must not do it any more. The public-spirited or grouchy member who has formulated the charges gets himself universally disliked, and the reputation of being a "sorehead" clings to him for the rest of his days; he is a man who is best to be avoided.

Read over the venerable code of ethics, and one can not but say that there is not a thing in the rules to which any honest man can not subscribe; not a provision that any man ought not to follow uncompelled. But, here is just where the trouble arises—every human being resents instinctively the sense of obligation.

All good traits require cultivation—the weeds come naturally. The boy is primarily destructive and predatory—altruism is the ultimate degree of development, and not everybody reaches it. The primary instinct of every normal human being is, to be free; and under the consciousness of freedom the moral instincts develop naturally. Tell a man that he *must* do a certain thing. and he resents the compulsion; let him alone. and his sense of right will lead him to do right.

A man need not be Christian, Jew or Buddhist in order to realize the intrinsic truth of the divine maxims, "Do unto others as you would they should do unto you," "Love thy neighbor as thyself," "Be kind to all that lives," for, the innate consciousness of every man accepts them as true. Let any body who has transgressed these simple rules face a gathering of his fellows—the medical society—and be called to explain why he has acted unjustly or treacherously toward his colleague, and he must either confess and promise amendment or else face the disapproval and ostracism of the rest.

But, let these rules be cast into a code of law or ethics and make their observance obligatory, and at once the spirit of rebellion is aroused. No orchard so tempts the boy as that one which is guarded by a savage dog, for, the fruit so protected surely "must" be sweeter. Whenever a new law is framed to restrain commercial activity within due limits,

the wits of the legal fraternity are set to work to devise means of evading it.

Similarly, promulgate a code of medical ethics, and at once men try how close they may shave its limits without actually transgressing—or being found out. If they slop over, their fellows joke with or commiserate them rather than condemn. The member who prosecutes is condemned as one who has seized the chance of making trouble, having caught his neighbor at a disadvantage; and it is the stickler for discipline who alone suffers from the affair.

The best rule of ethics is that of simple right and wrong—the Golden Rule. He who carries this in his heart and invariably acts upon it has little need of written codes. Such a one is not a wolf whose actions must be regulated by law, whose preying upon his fellows must be restrained within such limits as protect the pack in general, but he is a God-fearing, Christian gentleman, or its full equivalent, who does what he feels to be right, not for fear of punishment or of detection, but because he has trained himself to do so as a matter of course, to keep his self-respect. He desires to say truthfully, when he comes to face Eternity, that he has never knowingly wronged any human being or neglected an opportunity of benefiting others; and, if he can do this, whatever his creed, he may fearlessly step off into Infinity, to meet a just God.

There was an ape in the days that were earlier,
Centuries passed, and his hair became curlier;
Centuries more gave a thumb to his wrist,
Then, he was Man—and a Positivist.

PROFESSION—BUSINESS—OR BOTH

Doctor, have you ever been in this man's situation? Just listen:

"Dear Editor: A short time ago, I saw in CLINICAL MEDICINE the statement that a young doctor should call in the old practitioner for counsel and advice. It cannot be done in my own case. This has been on my mind for some time, but I just kept choking it down. When one doctor stoops to tell lies on the other, that man is not worthy the title of 'junk peddler.'

"I came to my present location over a year ago. After getting acquainted with the prices and the people, I settled down. Work came slow at first, but as soon as it did begin my competitor began to get busy also, and in order to discredit my work passed the word around that 'only the bums' came to me.

"I reduced fracture of two ribs and charged $3.50 for this. Having occasion to be out of town when the patient desired the strips removed, he went to my competitor, who kindly told him I had charged too much and that he would have charged him only $1.50. Not satisfied with that, he informed my patient that I had not done the work right. I lost this patient, of course. I engaged to care for an obstetrical case for $10.00. Doctor spun another yarn and got the case at $15.00."

[Here follow several of the cases with which we are all familiar, where the older man made mistakes but managed to wriggle out.——ED.]

"This is the type of man whom I must meet and, yet, do business on a fair, honest basis. And then your editorial tells the young doctor that he should consult with the older one! I could never consider a man of the caliber of my senior for a good, honest opinion. If an honest opinion found entrance into his cranium, he would hardly know how to entertain such a stranger. You may think I am harsh, not so—I feel sorry for the man whose mind grovels so in the dust that he can see sheer nothing but the dollar. No man possessed of right ideals can stoop to such actions.

"I write these few lines because you are 'the man behind the gun' in an always most helpful magazine."

ANY YOUNG DOCTOR.

To this letter, one of the CLINIC's staff replied just as one who knows his big, kindly nature would expect he would. Nothing that I could say so well covers the situation, so, I shall repeat his words:

"Unfortunately, these cases are still to be found, and far too often, although I believe that physicians generally throughout the country are trying to be fair and considerate of one another. The situation you describe is certainly a very difficult one, and no one can blame you for feeling acutely concerning it. Nevertheless, the wisest course you can take undoubtedly is, to do your duty like a man, from day to day, keeping straight ahead and paying no attention to the criticisms and back-bitings of the other fellow. In the long run, chickens of that kind come home to roost, and it seems to me that they already are beginning to do so in your town. The fact that you have been upheld in your diagnoses by other physicians, and particularly by representatives of the state board of health, will get around to the people without your saying anything about it.

"Do not be tempted by anything the other fellow may do to follow the same tactics. Courtesy, honesty, fair dealing, integrity, and industry in the long run are bound to win out, and I am confident that you will make good and that your position will be firmly established in the community in which you live.

"Thank you, doctor, for writing us thus freely and frankly. We are glad to know the problems of the men in the field. Knowledge of this kind brings us closer to our readers, and I believe, helps us to help them."

Leave aside the personal element and take this case as a type. We have heard one side—we may easily supply the other; and, as we are not discussing this as a solitary case, can assume the judicial, impartial attitude.

We have an old established practician, into whose territory there comes a product of the modern school, versed in much with which the older man is unfamiliar. Each has certain advantages. The older man has no more income than he needs; he resents its cutting down, and feels sore that the people who have had his best service all the years desert him for this youngster. I do not excuse or justify his treatment of the young man; however, just put yourself in his place, and—honestly, would you do better?

There is the gist of the matter. Begin by thinking as kindly as you can of the older man; sedulously refrain from word or hint of detraction, ignore everything you hear of his saying about you—maybe he never said it, and most surely it has grown since it left his lips—and, whenever you can, put in a kindly word for him. He is not human if he can stand out against such treatment; and if he could, the townspeople would ride him out on a rail. Say no word in your own defense, but show a kindly spirit; the rest will do the talking for you.

Professionally, you are being tried out against him—and the best work can not long fail of recognition. But you are more than a professional man: you are a man, a citizen, and are being tried out as such in the great struggle for existence. This is what the young man never realizes until he no longer is young. The fittest who survives is not necessarily the best doctor, but the best financier.

If this older man has made egregious errors and, yet, come out ahead, he has beaten you badly; and it is up to you—just you, and nobody else—to learn how to compete with him commercially. Not by cheapening—if you have charged too much, come down; if not, hold your prices and [illegible] your services are worth what you ask, but don't add that his are probably worth what he asks. Leave that inference for the other to make. Do not lower your own standard because his are low. That acknowledges his superiority.

The thing is so simple and easy, if only you begin right, by thinking kindly of him. The rest comes as inevitably as age. But you must realize that it is your own manhood your fitness to wage the battle of life that is at stake, and not so much your ability as a doctor. You are a general who with superior forces and a better position have allowed the enemy to win his first battle against you. Never mind the old doctor—look to yourself; realize your failure in management and try to do better.

My brother, when he heard a man expressing his opinion of another in terms too vitriolic to pass the censor, was in the habit to remark quietly, "He speaks mighty well of you." Invariably the angry man drew in his horns and grumbled out something like "Oh, well, he isn't so bad, may be."

You would prefer to be just, doctor, and to give your whole thought to your duties as such—but you can not. You have to pay your way and be also business man and—chiropractor.

A hair on the head is worth two in the brush.
—Edwin F. Bowers.

PREPARING FOR TETANUS

We have long believed that the antitoxin for tetanus is a reliable prophylactic against tetanus. The fact has been further established, and now beyond a question, by the combined experience of all the enormous armies operating in Europe. In the terrain where the great battles are being fought in France and Belgium, the ground is heavily manured and infected with the germs of this disease to such a degree that a very large percentage of the wounded are likely to become infected. Early in the war, before it was possible to immunize any considerable number of the wounded, the number of persons who became affected and the percentage of those that died was extremely large. However, it has become the custom to administer tetanus-antitoxin to virtually every wounded soldier, at least whenever the preparation is available, and there is no question whatever that when given early it prevents the disease.

This experience should be brought home to every American physician, especially at this time of the year, inasmuch as the number of contaminated wounds is likely to be large. Fourth of July wounds have always been peculiarly deadly, primarily because they are liable to be infected with street dirt, which carries large quantities of the tetanus-bacillus, and, secondly, because there is a very considerable portion of contused and perforating wounds.

The tetanus-organism is anaerobic, that is, it thrives best in the absence of air. Any dirt- or dust-infected perforating wound, therefore, which shows a tendency to close over provides favorable conditions for the development of the disease. Every such wound should be laid wide open so as to permit free access of air to the most remote portions, and it should be kept open and allowed to heal from the bottom up. In addition, every patient who has received such a wound should be given a prophylactic dose of 1500 units of tetanus-antitoxin.

This should be considered an emergency-remedy, and, if it is not available at local sources of supply, the physician should carry a small stock for emergency use. While it may be true that 98 percent or more of persons who receive wounds of this character will escape tetanus, the fact that even one or two persons may contract the disease should be sufficient incentive for the physician to be prepared. We strongly urge the use of this antitoxin by everybody, in every part of the country, in every case of perforating wounds.

Life is short—only four letters in it. Three quarters of it is a "lie," and half of it is an "if."

A MESSAGE FROM IOWA

Last week we journeyed into Iowa with a number of pharmaceutical manufacturers who make preparations for sale to the medical profession, to attend the annual meeting of The American Association of Pharmaceutical Chemists, which was held in Cedar Rapids, May 29 to June 1. I shall not try to tell you about this meeting, for you are not primarily interested; but it was a good one. We got our feet under the table and swapped experiences with a lot of fine men, representatives of houses like the National Drug Company, The Standard Chemical Company, The Norwich Pharmacal Company, The Zemmer Company, The Maltbie Chemical Company, G. D. Searle & Company, and a big bunch of others, fifty or more all told and, therefore, too numerous to catalog here. They were all earnest, hard-working fellows, none of whom are building up great fortunes, and all doing their level best to produce remedies of quality which shall merit the approval of the medical and allied professions. They deserve your confidence, and I am glad to tell you so.

We enjoyed this meeting and profited by it, but—Iowa itself was the big exhibit. From the time we entered the borders of the state, Iowa "boosters" were singing pæans of praise for the state which they call home. And I don't wonder. Iowa is a great, splendid, prosperous state, teeming with the unparalleled richness of her fat acres, bringing comfort and wealth to her children to a degree realized in no other part of the country—barring only the contiguous prairie states of the Mississippi Valley.

Our first stop in Iowa was in Des Moines, where we were entertained by Mr. G. D. Ellyson, president of The Standard Chemical Company, and his associates of that company, and by representatives of the Chamber of Commerce, the Manufacturers' Association and the Greater Des Moines Committee.

Mr. Ellyson and his friends, including particularly R. H. Faxon, V. C. Fitch, George E. Hamilton and Ralph Bolton, official representatives of the various boosting organizations of Des Moines, made our visit to that city one which none of us will ever forget.

After a breakfast at the Des Moines Club, where we were greeted by some of Des Moines' leading citizens, who took this meal with us at 7:45 a. m., when most prominent citizens are supposed (erroneously) to be still in bed, we visited the Capitol building, meeting the secretary of state, the adjutant general and other state officials. Next we went through the splendidly appointed new pharmaceutical plant of The Standard Chemical Company (where we found an "oasis"), and finally brought up at the lunch provided for us by the Chamber of Commerce, where short talks were given by Mr. Ellyson, Mr. Maltbie, Mr. Dunn, Doctor Abbott, and others.

In the afternoon we were shown Des Moines' hundreds of attractive homes in a long automobile ride, which finally landed us at Ellysonia, the beautiful bungalow of our host. Mr. Ellyson and his good wife took good care of us. We were given something to eat and something to drink, were regaled with music, cheered with good-fellowship, and throughout made to feel thoroughly at home. Everything possible which could contribute to our comfort and happiness

seemed to have been thought out in advance, and carried out with the simplicity, earnestness, and thoroughness that shows what a good business man and splendid fellow Ellyson is. There was a vote of thanks, and a few well-chosen remarks by Doctor Abbott, voicing the common sentiment of appreciation for Mr. and Mrs. Ellyson, to which Mrs. Ellyson responded in a few happily chosen words expressing the pleasure it always gave her to assist in entertaining Mr. Ellyson's business friends in their home. It was the joy of their life, she said, to be able now and then to contribute a few flowers along the pathway of life, and she was pleased and proud to have Mr. Ellyson's business competitors assure her that he was carrying these same principles into his business.

Miss Daisy Binkley then sang for us Carrie Jacob Bond's famous song, "A Perfect Day," and, "to give the finishing touch," Mr. Ellyson said he knew of no better way to express his feelings than by some old lyric Scottish lines:

> Friendship makes us a' more happy
> Friendship gee us a' delight
> Friendship consecrates the drap-e,
> Friendship brings us here tonight.
>
> Happy we're bin a' togither
> Happy we're bin yin und a'
> May time find us a' the blither
> When we rise and gang awa.

Then we were loaded on the train for Cedar Rapids.

During our stay in Cedar Rapids, association business was the main consideration, and there was much of it, so there was less time for play. Manufacturing pharmacy has its problems, and in this day of drug shortage, heart-breaking prices and manufacturing difficulties, they are by no means small ones. But that prince of good fellows, Mr. E. S. Holt, of The Howard Holt Company, was our host in this city, and again we were entertained as they know how to do it in Iowa. Representatives of the local organizations, of the Commercial Club, the banks, and others—men like Wunderlich and Hamilton—were on hand at the banquet and elsewhere to tell us about their town and help us have a good time. We visited the plant of The Quaker Oats Company, the biggest concern of its kind in the world, and most of us got a glimpse of the wonderful resources of this section, which is probably the richest in the entire United States.

Iowa, we learned from Hamilton, the banker, has one automobile for every fifteen of its inhabitants; and if the time should ever come when it shall be necessary to follow Mr. Bryan's military strategy, this state could load every one of its male inhabitants into their cars—and they are not all Fords—and proceed on short notice (over the finest highways in the Mississippi Valley) to meet the enemy and—tell them all about the glories of Iowa. Victory would inevitably cool her weary feet on the banners of the legions of this state—for there could be no escape.

Iowa raises more and better corn than any other state. Her barns and grain elevators are bursting with bumper crops of oats, hay, barley, rye and other grains. Her cattle exceed in value those of every other commonwealth—barring one only. Hamilton told us of the herd of a hyphenated farmer living near Cedar Rapids whose eighty animals sold at auction for more than $50,000. Iowa likewise leads the world in hogs—but praises the Great Jehovah for the unrivaled generosity of her citizens. And her doctors, as every Iowa reader of these lines will admit, are all picked-to-win warriors in the ages-old struggle with Apollyon Disease—and we know that with only inconsiderable exceptions they pay their bills.

Iowa is rich, proud, prosperous, and happy. Best of all, she is productive, not parasitic—adding to the world's wealth instead of subtracting from it. Perhaps that explains why we saw smiles on so many faces. Their hearts are right!

Their hearts are right—that's it; and the thought brings me back to Doctor Abbott's brief message to Mr. and Mrs. Ellyson at their home in Des Moines. In business and professional life, as the doctor pointed out, the big thing isn't the money we make—it's the friends we make, the love we inspire, the confidence we win from those whose hands touch ours in the contact of daily life and over the bridge of commerce. Ellyson loves his wife and she loves him, and because of this love theirs is the perfect teamwork which makes the game of life worth playing for them.

The same feeling can be and should be transplanted into business. Ellyson is doing it—as everyone should. Better than money in the bank, more heart-satisfying than the ability to hold some small segment of the earth's surface and the people on it in the hollow of your hand, at your mercy, yours to be crushed or made at will, is the consciousness that love and mutual confidence rule your association with your coworkers—even with your competitors. The big success is won when cheerful faces greet you at every turn; when men stop you on the street with a "Hello

Gid—how are you, old man?" and slap you on the back in a way that makes your pulse beat quicker, and gives you courage to keep up the fight, stirring your heart to nobler, cleaner, bigger work.

Love that inspires confidence is the biggest thing in life, and it should be the greatest factor in business. I confidently believe that it is becoming so, and that the old days of cut-throat competition, harking back to the elemental man, whose fondest wish was to brain somebody with his stone-axe, are passing forever, to be replaced by a period of cooperative competition, in the professions as well as in business, during which success shall come to him who gives the best service and therefore inspires the greatest confidence. *And the inspiration will come from our friends —"God bless 'em one and all,"* to paraphrase the remarks of Little Tim.

And that's the biggest message we brought back from Iowa.

If one could choose one's parents, it would be perfectly proper to be proud of one's ancestry.

TOO MUCH ANATOMY AND SURGERY

The root of the prevalent pessimism in regard to the value of drugs is to be found in the overweening importance long given to the study of anatomy. Even as long as fifty years ago it was not uncommon to find students in the medical colleges who prided themselves upon devoting their whole attention to this one study—and upon their ignorance of all the rest of the curriculum. Is there in existence a man who can remember any student who thus prided himself upon his knowledge of physiology?

The anatomist developed into the surgeon—and the surgeon has always licked off the cream. Dealing only with the failures of the internists, the surgeon may be pardoned for failing to realize that these comprise but a small part of the internists' experiences.

Today there are none but surgeons and pathologists; and both concern themselves with the dead, with the end results of disease-processes, paying little attention to the morbid processes that lead to these endings. As we have often remarked, they deal with the ashes of burntout fires. Of functional affections, they never speak except with contempt, and interest themselves only in maladies affording material lesions—and in the presence of these they acknowledge their impotence. No man may claim to re-create a solitary living cell. The medical profession is today, with scarcely an exception, engrossed in the study of the dead body and of destroyed tissues.

In the course of every disease, there must be a beginning, a period when the affected tissues are assailed but not yet irremediably impaired. We can not study this period in the laboratory, for the man is not yet dead, his affected organs still are functioning. The study must be made in the greatest and most neglected of laboratories—the sick-room. Lay aside your microscope and apparatus and study the man!

Every aberration from normal function has a meaning, a cause. Trivial these may seem—so is a drop of water trivial, but, put enough of these drops together, and the world may be drowned.

Sneer at these functional disorders and wait until material lesions have been perpetrated—and then acknowledge your inability to do anything? Oh, no, we are not helpless at all; we can step in and remove the useless apparatus, the pus collections, the end results that endanger the life of the patient. Yes, this comprises the sum total of the professional resources today. As for curing diseases before they have gone on to destruction, that is not considered at all.

This condition has never been acknowledged, and it may be vehemently denied now. It is true, nevertheless. There ever has been a tendency on the part of the medical profession toward abstract science—toward laying the foundations so deep and wide that by the time the surface has been reached there has been nothing left with which to erect the building.

Against this lofty professional ideal, there has always been a disposition to rebellion. Every man is more interested in himself than in his disease. To him, the cure ranks higher than the diagnosis. The history of medicine shows an uninterrupted sequence of uprisings of "outsiders" who professed to cure; and, although these have been men not versed in the lore of the schools, they invariably have met with a hearty welcome from the people. Not one of them has been noted for his discoveries in pathology, his skill in diagnosis, his knowledge of anatomy; but every last one of them has known men and has devoted his energies to the cure of their ailments. And every last one has had the support of the public.

These men have studied the symptoms of living men and have directed their efforts at curing them. Swiftly the public has rushed to them and deserted us. The reason

is, that the pretenders gave the people what they wanted, while we proffered them what we thought they ought to have. We have failed to realize that the study of sick men is a specialty, and that men of average learning and intelligence who devote themselves to this specialty are as likely to develop special skill in it as will the votaries of any other specialty.

Doctor, can you hold your own in the sick-room against the homeopathist, the eclectic, the physiomedic, the osteopathist, the Christian Science healer, the Chiropractor, and the rest of the innumerable rivals that throng about us?

True, we have gone into their methods in our ponderous way, and in due time announced that there is something of value in each, and then proceeded to appropriate and assimilate these with our other methods. We never succeeded as well as the originators. We fail, because we do not realize the one fundamental truth in all of these; which is, that they are based on a study of the patient. The book of nature is greater than all the printed books put together; and nature changes not, while few medical books are worth anything a few years after their appearance.

This morning comes the news that J. J. Hill is dead. The newspaper report speaks ambiguously of an "intestinal infection." Most probably constipation and autotoxemia robbed the world of this noble man. Neither the Mayos nor the New York surgeon summoned half across the continent, nor all the surgic skill in the world could save him. Yet, every one of us is aware that, had he been under the direction of a physician who comprehended the importance of the alimentary canal and could have applied the "clean-out, clean-up, and keep-clean" method, the great empire builder might have been spared for many years yet. But, the motto of the day is, "Wait until it is ready for operation. Meanwhile, do nothing."

The times are ripe for a great popular rebellion against this thing.

If God did not exist, it would be necessary to invent him.—Voltaire.

CLEAN THINKING AND CLEAN SPEAKING

Physicians as a class are frequently credited, or charged, with habits and peculiarities that are hardly in keeping with the seriousness of their profession and with the character of its devotees. It is, for instance, a [illegible] that physicians are materialistic, or skeptical because it is believed that they refuse to accept what they cannot demonstrate with the scalpel, under the microscope or in the test tube. Thinking people will readily see that the very study of anatomy, physiology, biology, and of all medical and allied disciplines makes it impossible for the student to acquire or to retain atheistic views.

It is also frequently assumed that physicians, at least in their leisure moments, are prone to be somewhat loose in their talk and that they are experts in telling stories that have been characterized vulgarly as "smutty." We venture to say that physicians, as a class, are more guarded in their language and more careful, not only in clean living, but in clean thought, than are many other men; although even for them the truth must be admitted of the saying of old, "*Homo sum, nil humani a me alienum puto.*" In an address recently delivered before the Christian County (Kentucky) Medical Society, Dr. J. W. Crenshaw insisted, with great justice, upon the necessity on the part of the physician to guard his thoughts and his speech. By pointed instances from his personal experience, he demonstrated the abhorrence that is liable to be inspired by vulgar, profane or obscene talk, and, conversely, the favorable impression that is made by straightforward and dignified language.

Undoubtedly most of us do express ourselves in a simple and dignified way and refrain from vulgar profanity, more particularly from using the name of the Lord in vain. We, as a whole, also have an inherent distaste for the obscene and suggestive, and, yet, most of us, it must be confessed, have slipped at one time or another and have indulged in "language" or have participated in or countenanced risky stories told in our presence. It is strange how our natures are often mixed, and we are reminded constantly of the double entity that is asserted to be living within us, and which Goethe has described so eloquently.

The writer is reminded of an old professor of anatomy in one of the Swiss universities, who was a regular terror for spicy stories, and who for that reason produced an ineradicable impression upon the minds of his students. One day, however, after telling one of his best (?) stories, he raised himself up to his full height and said, in all seriousness, sincerity, and good faith: "Gentlemen, never forget to take off your hat to, and to respect, every woman who gives a child to

the world." The anticlimax was marked, and that professor was forgiven for many stories that often had brought a blush to the faces of even his somewhat callous students.

It is important that physicians guard their speech and also their thoughts. It makes a bad impression to see them smile and sneer at things that are serious and sacred. It is also painful to hear them indulge in profanity and vulgar cursing. "Let your communications be, yea, yea; nay, nay: for, whatsoever is more than these cometh of evil."

Now, forget your haste, just for a second or two, let go pushing the train you are riding in, stop trying to do all your work at once; and perceive how deliberate, how regal, how indolent your soul is, how sure of itself, how indifferent to the petty chances of punctuality or accomplished toil.

Bliss Carmen

A DREAM? A FLORIDA COLONY FOR AGED DOCTORS

There is no living man but will acknowledge that eventually death will get him, while few, if any, there are who do not go on as if they expected to live forever. Express trains and taxes come at definite times, but death is so very remote that we really look upon it as upon the millennium—too far away to be practically considered. So, ever and anon someone of our fellows is stricken, and then we talk sagely of the inevitable end of his course of life; then go on living just that way ourselves.

Another matter that but few contemplate is, the supervening of age. Youth doesn't care. Manhood is too busy. Both are too well established in their forces to realize that time will surely sap them—that the days must arrive when "they have no pleasure in them," when the tides of vitality ebb, the zest of pursuit weakens, the blow lacks "steam," and the objects of endeavor appear to be little worth the effort. To me, the world offers no spectacle so pitiful as the doctor who has outlived his ambitions, his beliefs, his kindred and his friends, and who in his days of decay must still work to sustain life—having in his busy manhood days, been too much absorbed in the Present to take thought for his Future.

How easy it would have been to put aside a trifle regularly, that would not have been missed then, but for the fewer needs of age would have formed a sufficiency.

You know all this. That's just the trouble—you know it but too well. You read it, yawn, and straightway forget it—you consarned old dubs! Now I want you to do something—to act upon it.

Doctor Cuzner is one of those men who, even in his well-earned retirement, can not keep quiet—he must be doing something useful to his race. So, he wants to donate four acres on the St. John's River, in Florida, as the nucleus of a home for elderly retiring physicians.

I know the place. Location, climate, salubrity—the combination is as near an earthly paradise as any of us is entitled to. The region has the warmth that we desire and need, the exuberance of vegetation, the fertility of soil, the invigorating salty seabreezes, the bathing, boating, fishing; the only drawback is its close proximity to Jacksonville. Still, some of the possible future denizens of this retreat may be infected with the movie-craze or other form of city-madness, and, so, not feel this feature as a serious objection.

This arrangement may do for a starter—but only that. Some of you may want a five-acre tract and a hut on it with plenty of well-screened, open porch-room; also, pure water and good bathing; the tract planted with whatever is best suited for it—a good kitchen-garden, fruit, and nuts; pasture for a pair of milch-goats; chickens and other domestic fowls, a kennel for a couple of Airedale's. Moreover—all that for a cost inside of five hundred dollars!

Suppose 100 join in this, each putting up that sum, payable in monthly installments of, say, ten dollars, and form an association; providing such regulations as shall forever shut out the greedy monopolist. No salaries, no forfeitures, no expenses, except what may be provided for by a small quarterly fee—say, $2.50 each—or $5.00 a year from the 100 members. Buy a suitable tract and divide it into the 5-acre lots, letting these be drawn by lot, and each to be free to develop what he wishes on his own. We may raise oranges, lemons, grape fruit, bananas, sapotes, tamarinds, plantains, celery, peanuts, pecans, garden-truck, berries, peaches, grapes, bulbs, flowers, drug-plants, palms, ferns, mushrooms, pineapples, camphor, tea, silkworms, frogs, terrapin, trout, any bird or animal that is worth cultivating—the number of things one might make a hobby and (perhaps) a good living from is beyond computation. These call for thought, reading, time, and as much actual outlay of money and muscularity as one may have to spare.

Meanwhile, one may well expect that such a settlement would attract a goodly number

of our old friends and patients who might be in need of just such conditions as ourselves and desire to be within reach of their trusted adviser of years. My specialty is, the Prolongation of Life, and I should expect to form on my acres a colony of those who care more to live long, happily, and healthily on this planet, rather than to pile up scads for the ruin of their children. Incidentally I should try out the suspicion that from the alligator a serum might be developed that would cure tuberculosis!

Now, if any of the many thousands of readers of this journal feel that this plan offers allurement, let us try it out. First must come the cash. I won't have it; the safest man to handle it is yourself. Each month put in the savings bank what you can spare. When you have $500 ready, let us know; and as soon as enough are ready, we shall meet at Cuzner's and select a location.

Personally, I like the idea of an undeveloped tract that can be bought for little—preferably far distant from the towns, accessible only by boat so as to keep away undesirables and tramps. With such a tract, we need not wait for the 100 to put up the sum named, but could begin sooner.

That is one plan. If anybody has a better one, let him write at once to this journal. The more the better. But—just think of the roaring old Christmas celebrations we should have in Florida, with the children flocking in from all parts of the North ! ! !

It is easier to miss a piece of great fortune, than to bear a great misfortune.—Heinrich Heine.

REMOVE THE CAUSE

That the cause must be removed is an axiom in therapeutics, to which deservedly great importance has been attached; but the universal tendency to make a fetish of any good thing as soon as its value has been once admitted is shown here. One would imagine that the sum total of our possible beneficial intervention was comprised in this one thing.

In his day, Brown-Séquard acquired great kudos by adverting to the influence of reflex irritation from local causes in the induction of epileptic seizures. His world-famous case was that of a boy who had a convulsion whenever his foot pressed against the floor. Examination detected a something like a grain of sand on the sole of the great toe, pressure upon which occasioned the spasm; and removal of this granule cured the malady.

Years before this time, Esquirol had observed similar phenomena, [illegible] removal of the exciting [illegible] the malady. This [illegible] this writer's personal experience. [illegible] striking grand-[illegible] plays [illegible] illustrious Creole are not always [illegible]

Removal of the bullet does not cure the wound. In the presence of such [illegible] as the vomiting of pregnancy, the [illegible] or conscientious practitioner will stop to ask himself, "which cause?" before proceeding to its abatement. Aside from all such conditions, we have also to consider that many maladies may be set in motion by local irritations, but continue after the original cause has ceased to act. This may be from habit or because the affection once set in operation has no intrinsic tendency toward cure.

Let us not go to the other extreme of neglecting or undervaluing the etiologic indication. There may be an anomaly that is the origin of a whole vicious brood of reflexes that can not be controlled as long as the cause remains in operation. We have, then a leakage of the nerve force, that keeps the patient always drained, never allowing an accumulation of energy-surplus to be made for special demands. Every such special demand finds the patient unprepared, and nervous and psychic phenomena appear.

Case: A lady has constant headache and pains and tendernesses along the cecum and colon and in the region of the right kidney; digestion is imperfect, bowels are sluggish, sleep is disturbed and unrefreshing, health impaired, metabolism sluggish. As a matter of course, she had been to Rochester, and the very thorough examinations made there had not detected any disease. Sixteen years previously she had had the right kidney anchored, to remedy nephroptosis. An abscess followed, this discharging into the urinary ways. She has never been well since.

A finger being inserted into the rectum, an exceedingly sensitive and spasmodic sphincter was encountered and the whole train of nervous phenomena was aggravated thereby. The sphincter was dilated thoroughly. The nervosa were but slightly modified. To make this an ideal report she should have been immediately relieved and we should have had a fine opportunity to crow over our great northern colleagues—but we hadn't. However, the way was cleared for really curative treatment, for we learned that we had to deal with a chronic catarrhal condition of the large bowel, with muscular paresis, fecal absorption, and its consequences.

Treatment commenced with a decided, positive promise of a cure, which would take time, "since chronic maladies require chronic treatment." Rhubarb was given with hydrastis, and sanguinaria. Of this combination a dose was ordered each morning; if the bowels did not move by noon, a second dose was to be taken; if not by evening, then a third one. If this did not suffice, she took a warm enema, with 30 grains of zinc sulphocarbolate added; this followed by a half pint of quite cold water as a bracer for the sluggish tissues. Six Bulgarian-bacillus tablets administered daily, to supply the intestinal tract's defenders an adequate reinforcement. Diet was carefully arranged, so that she ate some of every food placed on the table at *table d'hote* meals. But she ate properly, masticating and insalivating her food thoroughly, took no cold fluids while eating or anywhere near meals, and avoided excess of total quantity as well as of each of the divisions of foods. Between meals, she did no nibbling, but if hungry took a cup of clam-broth or of hot salted milk. All the elements of personal sanitation were arranged with scrupulous care.

One more item—we have a group of remedies whose value is rarely appreciated even by well-informed and experienced therapeutists—the sedatives. Gelseminine, cicutine hydrobromide, and solanine, sedate the nerve-centers, without the debilitating action exerted by the bromides, in effective doses, over the digestion and the vitality. They lessen the irritability of the long-overexcited nerves, and our curative treatment will be accelerated. So, she received gelseminine, a full dose of 1-50 grain two to three times a day. No such perils are encountered as with opium derivatives; no habit possibility or nerve degeneration looms in the background. Instead of having the hemic toxins thrown back into the cells, as with morphine, they are thrown out of the body by the eliminants.

The result?

We *said* she would get well; and when one deals with therapeutic certainties, such positive prognoses are permissible.

Open the door of truth and falsehood, and it will certainly be a lie that will enter first.—Napoleon III.

AS TO SOME OF OUR INSECT ENEMIES

The Chamber of Commerce of the United States has just issued a bulletin calling attention to the menace of the boll-weevil to the cotton crop of the South, and to its vast economic importance. Twenty-three years ago, this exceedingly undesirable immigrant eluded the officers on guard along our Mexican border and slipped into Texas. Since that time, the weevil has steadily extended its habitat, until now its ravages cover the greater part of the western cotton belt, while extending over the rest at the rate of from forty to seventy miles a year.

The economic loss from this pest has been immense; yet, the cotton crops of the country have increased and also certain compensations have followed. The planters have been driven to study methods of seed selection, cultivation and management in order to meet the evil, and, better yet, to that diversification and rotation of crops that goes so far to establish an insurance of agricultural returns. With them it has been "cotton, cotton, and nothing but cotton" for many a year, until the laboring class of that region has become incapable of doing any work but raising cotton. This developed slavery, since cotton demanded a certain quantity of labor virtually all the year, while the cereals called for help only during the planting- and reaping-seasons. A good crop of cotton paid such rich returns that the planter could not be persuaded to raise anything else; and the huge profits of the fiber-plant went to pay for food and other needs of man and animal.

A crop that returns annually the full value of the land, anywhere from fifty dollars to one hundred dollars per acre, surely seems preferable to one the net value of which does not exceed much more than half as much. Part of the apparent profit is lost in poor crops, part in the low prices ruling some years; but possibly the peculiar habits of finance fostered by this one-crop system have more to do with the matter. The cotton-raiser has no income during eleven months, while for one he is affluent. Borrowing seems a necessity, even at very high interest, for such crops warrant this; and then comes such a wealth of funds that lavish expenditure is the inevitable sequence of months of penury. Indebtedness and free spending are habits easily acquired, and not readily broken. Nine percent usury seems little as compared with 100 percent profit; but the one is sure, and it surely eats up the debtor in time. The openhanded hospitality and the charm of manners that render the South so delightful to visitors are so inseparably connected with this one-crop system that one may well ask whether a change is likely to alter the ways of the citizens. If so—let us have less cash in bank and keep things and people as they are.

Many efforts have been made to stay the

ruin induced by this pest of the cotton boll-weevil. Sprays and poisons fail, because they act on the surface, while the insect burrows into the downy bolls. "Burning or plowing under the infested cotton plants in the fall, burning all brush heaps, picking and destroying weevils that appear upon the young cotton, picking and destroying the infested squares during the growing season, rotating crops so that the weevils find no cotton to feed upon when they emerge from their hibernating quarters are some of the remedies that experience has shown to be the most effective." Sunshine, hot dry weather, many birds, and about 45 species of predaceous insects that prey on the weevil are among our effective allies in this war.

Only about three percent of the weevils survive the winters; and it is said that the districts that suffer from overflows of the great river are comparatively free the following season. The report states that the weevil has no other food but the cotton; but this is a mistake, for it has been shown that the insect lives on the okra, milkweed, and a number of other plants, although it prefers cotton. Were it not for this, the spread of the pest might be stopped by establishing a 100-mile neutral zone about it, in which no cotton should be grown for a year, so that, by repeating this each year, the invasion might be beaten back to the original source. As it is, the insect has become domesticated in the United States and seems to have come to stay.

In the Mississippi delta an effort is being made to get rid of the weevil by rotation of crops and by planting the cotton very early, so that it attains an advanced stage before the weevil makes its attack. Altogether, this forms one of the most interesting phases of the war waged by man to wrest nature from its savageness and bend its forces to our will.

The report concludes: "It is a curious and significant fact that the life-history of the South—social and economic—is bound up in the story and the conquest of three insignificant and malignant insects—the Texas fever, or cattle-tick, the cotton-boll-weevil, and the malaria-bearing mosquito."

The study of the tick and the mosquito has progressed so far that we now know how to put an end to their ravages. The tick is exclusively carnivorous. Hence, when the cattle on a ranch have passed through the disinfecting-tank, they should be confined to a corral for a certain period, during which the ticks in the rest of the ranch starve. Then the cattle are again dipped and excluded from the corral [illegible] free from ticks

The effort to exterminate the mosquito are useful, but not always completely successful, since the insect may breed even in the drop of water at the axils of leaves. But the great discovery is, that man is the source of malaria infection for the mosquito. He is the carrier who retains the plasmodia from one season to the next and reinfects the lady mosquito at her first visit. It is not enough (although it helps) to prevent access of mosquitos to the man who is actually down with malarial fever, but the carriers should be detected and cured. Bass and his associates are endeavoring to persuade the people of the malarial districts to undergo expert examination for the parasites, during the winter when they are dormant, and then, effective quinine dosage may put an end to the malady in that district.

It is a very easy and simple matter thus to ascertain the source of the evil, and devise the means of ending it; but the labors of Hercules were the merest child's play beside that of inducing the people—all the people—to adopt these measures. Those who are younger and more optimistic may tell us why typhoid fever exists, when it could be so easily ended, were every doctor to see to it that the excreta of his typhoid-patients were put to soak for some hours in freshly prepared whitewash.

But, if the most intelligent, most progressive, and most erudite class of the community —the doctors— fail to adopt universally this easy measure, how expect the entire population of a malarial belt to accept the costly and, to the less-learned laity, rather appalling procedures of blood examinations and quinine dosage in effective quantities? There would surely arise enough antiquinine individuals to render the procedure nugatory.

Memory is a good thing, if properly regulated. One should forget to remember some things, and remember to forget a great many more.—"Modern Society."

PRACTICAL POINTERS FOR JULY

One of the best remedies for diarrhea in children or adults is a good culture of the Bulgarian bacillus; and it is harmless.

One of the best remedies for postoperative shock is a camphor in oil solution, administered hypodermatically. Give 1 1-2 to 3 grains at a dose.

Giddings' "high shock enema" consists of black coffee, brandy, salt solution, each 2 ounces, together with 1 dram of adrenaline

chloride solution. It should be administered at a temperature of 110° F.

Our southern brethren should tell us more about pellagra. Is it caused by diet? Is it cured by diet? How many of you accept the Goldberger hypothesis? How do you treat it?

The Bulgarian lactic-acid bacillus has been tried, and (it is said) found effective, in the treatment of pellagra. We should have more reports regarding this use of this remedy.

Are you looking for a real sedative—one that will take the place of the bromides and is free from the manifest disadvantages of these powerful drugs? Try solanine. Use it in epilepsy or in any other condition where sedation is required.

Theories may come and hypotheses may go, but our faith in intestinal antiseptics increases in spite of them all; and the authorities are beginning to take them up! After all, there is no better remedy than the sulphocarbolates for the treatment of the infected alimentary canal. "Dose enough."

For seasickness and carsickness there is nothing that acts with such certainty as a combination of strychnine sulphate, hyoscyamine and caffeine. Substitute atropine for the hyoscyamine if you wish.

Sunstroke? If there is high temperature, put the patient in a cold bath, and rub. If there is heat exhaustion, with pallor, stimulate. Try lobeline hypodermatically to relax if there is any tendency to spasmodic states.

We have never lost our faith in the intestinal origin of pellagra, and now new evidence seems to be accumulating that, after all, it is an infectious disease. Read the report of the investigations made by the Postgraduate Medical School and Hospital, of New York, as given in "What Others Are Doing," this issue.

To control post-anesthetic thirst, give a high rectal enema of warm salt solution as soon as the patient leaves the table. The average rectum tolerates and retains from four to six ounces every four hours; therefore, repeat the dose p. r. n. An occasional sip of hot water controls thirst better than the most generous draught of cold water.

The latest cure for pernicious anemia is splenectomy. This procedure was first undertaken by Eppinger and De Castellani and has recently become very popular in this country. It was the subject of a symposium at the meeting of the American Medical Association in Detroit. Remarkable results were obtained in some cases, in fact, in a collated series of cases improvement was shown in 63 percent.

The Fowler, or semi erect position, says Giddings in *The Boston Medical and Surgical Journal*, is one of our greatest assets in treating cases of appendicular abscess, septic peritonitis, or any condition in which the patient has been exposed to abdominal infection. In this position all the fluids gravitate to the pelvis, the lymphatic supply of which is relatively poor. This, of course, means less absorption. The fluids in the pelvis are readily carried off by the use of the Murphy rectal "drip."

In treating intestinal stasis, Eggleston (see *Medical Record* of March 4, 1916) advises a bulky diet to stimulate peristalsis; reduction of proteins, to lessen putrefaction; lactic-acid forming bacteria, to check the growth of putrefactive organisms; with agar-agar, bran and a mineral oil for their laxative action. Speaking of mineral oil, use one of the delightful emulsions now on the market, especially if your patient is a woman with a highly sensitive sense of taste.

Doctor Waugh says there are two forms of bronchial asthma. One is relieved by a good-sized hypodermic dose of atropine, the other by a relaxant hypodermic dose of lobeline. Free the bowels completely, since many cases are autotoxemic; allay nervous irritability with the milder antispasmodics, such as passiflora, cypripedium or scutellaroid; carefully regulate nutrition and personal sanitation in all its branches; and cure any local affection, however slight and apparently inconsequential. Provide a vital interest and prevent introspection, and your patients will do better.

The veterinarians are using a great deal of lobeline sulphate and they recommend it in the highest terms as a virtually nontoxic antispasmodic, acting quickly and allaying excitement due to various causes as few other remedies can do. They are using it in the treatment of tetanus, in flatulent colic in horses, in heat prostration, and in various other conditions accompanied by spasmodic and excitable states. Here is a hint for the human doctor. We know that lobelia is a favorite antispasmodic remedy with the eclectics. Lobeline is more exact, and we believe it will give results obtainable from no other preparation. It can be given either by mouth or hypodermatically. It should be tried in sunstroke, eclampsia, and other convulsive conditions, pushing to thorough relaxation. Doctor Ellingwood declares it is the best remedy in pneumonia, and praises its action in sciatica and lumbago.

Leading Articles

Chronic Prostatitis, and the Technic of Prostatic Massage

By William J. Robinson, M. D., New York City

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I OWE a humble apology to the readers of Clinical Medicine. I promised a series of articles on the prostate gland for the pages of this journal. I expected to be able to furnish one article every month or at least every other month. Unfortunately, the demands of a constantly growing practice (a practice which is of so personal a nature that it cannot well be handed over to assistants), and the increasing demands of journalistic and literary work have made it practically impossible for me to do any outside writing. For some time to come, it will, therefore, be impossible for me to contribute regularly to the pages of this excellent journal; however, on an occasional contribution now and then the readers of Clinical Medicine may safely count. I know what an appreciative audience the readers of Clinical Medicine constitute, and I should not like to part company with them altogether.

In my previous articles, I several times mentioned the subject of prostatic massage. I was under the impression that every physician was familiar with the technic of this procedure, but this does not seem to be so, and a great number of physicians have written me, asking that I give them a brief description of the technic of massage of the prostate gland; others requested me to furnish an article on chronic prostatitis.

Many physicians seem to have a personal interest in the subject, for the number of physicians over 40 years of age who suffer from this affliction seems to be enormous. It appears that at least 7 out of every 10 physicians have some form or other of prostatitis or hypertrophied prostate gland.

As I have treated the subjects of prostatitis and of prostatic massage elsewhere, I can do no better than to quote from my "Treatise on Gonorrhea" and my other writings on the subject.

The Causes of Prostatitis

One of the most important factors in the etiology of chronic prostatitis is gonorrhea, still, gonorrhea does not play the same relative role in the causation of chronic prostatitis that it does in the causation of acute prostatitis. In the latter form, gonorrhea is preeminently the principal factor; other causes play but a subordinate role. This is not so in chronic prostatitis; while, as I have said, gonorrhea does play a very important role, other factors are also of great importance.

Among those factors of chronic prostatitis, we may enumerate chronic urethritis of whatever origin; masturbation; sexual excesses (that is, too frequently repeated natural sexual intercourse); coitus interruptus; complete abstinence, particularly if accompanied by excitation, mental or physical, without gratification (it is remarkable how the overuse, abuse or the nonuse of a function frequently leads to the same result); a steady, long-continued sedentary life, chilliness or colds from sitting on a cold stoop, and so on; catheterization; stricture; and long-continued cystitis.

Symptoms of Chronic Prostatitis

The symptoms of chronic prostatitis may vary from the mildest to the extremely severe. There are cases of prostatitis which are symptomless or practically symptomless, and there are those that assume the character of a very serious malady.

The symptoms of prostatitis may be classified as local, sensory, urinary, sexual, and general nervous.

The *local* symptoms are those that we discover by an objective examination. The prostate gland is usually enlarged, soft, boggy; either soft throughout or soft in some spots and hard and nodular in others; more than normally sensitive on pressure; and it exudes a turbid lumpy secretion when expressed.

The *sensory* symptoms are: heaviness and a dragging sensation in the perineum, pain in the prostate gland and the perineum, and pruritus ani or itching around and within the anus. The patient cannot sit comfortably for any length of time in one place and likes to shift his position. A symptom that can be frequently observed by the careful observer is, that the patient, when sitting down, will sit on the edge of the chair and, if the chair permits it, on one buttock only. Walking is less annoying to him than sitting or standing. He feels most comfortable lying down. While the pain may be limited to the prostatic region, it may—as is easy to understand in the case of an organ so rich in nerves as the prostate gland—radiate to various parts of the body, to the testicles, urethra, penis, thighs, and small of the back. The pain may also radiate to the kidneys and simulate the pain of renal colic. Personally, however, I have not seen such cases. In renal colic, the pain is too acute, too sharp to be mistaken for the dull, gnawing pain of prostatitis. Nevertheless, some authorities claim to have seen such cases.

A very frequent and most annoying symptom is, a leaden heaviness in the calves of the legs and also a burning in the soles of the feet. These symptoms make themselves particularly noticeable in the afternoon, around about 4 o'clock. I have been able to diagnose prostatitis in a great number of instances from these two symptoms alone. With the cure of the prostatitis, these symptoms disappear.

The Urinary Symptoms

One of the most common symptoms is the *frequency* of urination. The patients may have to urinate every two hours or even every hour, and, if they happen to drink some irritating liquid, such as beer, may have to urinate as often as every fifteen or twenty minutes. They also have to get up in the night from one to four times. Another symptom is the urgency of urination. There is a difference between frequency and urgency. A person may feel like urinating frequently, but, if he is unable to urinate at a certain time, it may cause him no effort to retain his urine. In the case of urgency, however, when the desire to urinate comes on, it must be complied with instantly, or the patient is liable to wet his underwear. There is a disagreeable, perhaps scalding, sensation on urinating, and there is dribbling of urine after the act. The size and character of the stream is often unaffected, although, as a rule, it is smaller than usual. The urine itself frequently is turbid and contains many bacteria and a large amount of phosphates; in fact, *phosphaturia is one of the most common symptoms in prostatitis.* Whether it is a direct result of the prostatitis or whether it is caused by the nervous condition induced by the prostatitis is an open question.

The *sexual* symptoms are briefly summarized in imperfect erections and premature ejaculations. The libido may be diminished, but, as is so often the case whenever any irritative condition exists in the prostate gland, it may be greatly increased, causing the patient to indulge to excess and thus still further to aggravate his condition.

The *general* and the *nervous* symptoms produced by an irritated or inflamed prostate gland are literally legion. At first there is a general irritability, a physical and psychic irritability. The patient responds much more quickly to external stimuli, such as changes in temperature, and he gets very easily upset over little things. Then there occurs a general depression. This depression expresses itself, not merely in a lack of desire for work and a lack of interest for things, but in a general despondency. The patient may occasionally become deeply melancholic, and this to such an extent that he may harbor suicidal ideas. If the condition lasts long, he may become a victim of sexual neurasthenia, with its legion of symptoms.

Other symptoms will be found described in my articles that appeared in the January and February issues of CLINICAL MEDICINE.

As to the Treatment

While prostatitis, as we have seen, may be a serious complication, giving rise to numerous annoying symptoms that make the patient wretched, diminish or destroy his usefulness, and may even lead him to suicide, there is one bright feature about it, and that is, that it is very amenable to treatment.

While we may not change the secretion in a suppurating prostatitis to such a degree that it does not contain a single pus-cell, still, practically all cases of prostatitis may be improved to such an extent that they will produce no symptoms, so that the patient will not be aware of its existence.

The treatment of prostatitis, as of all diseases of the genitourinary organs, is both general and local. The patient must guard against constipation. The diet must be bland, strong spices and condiments being eschewed; alcoholics must be reduced to a minimum; and everything possible must be done to raise the general condition of the patient from below par to par or above par. Cool baths and douches are useful for the general system, but hot sitz-baths are necessary for the prostatic condition. It goes without saying that any pathological condition in the urethra, such as a posterior urethritis, or a stricture, or colliculitis, or seminal vesiculitis, must be treated concomitantly.

Prostatic Massage

There is one measure, however, which is more important in the treatment of chronic prostatitis than all other measures combined, and that is massage of the prostate gland. It is quite remarkable what rapidly beneficial effect a massage of the prostate gland will produce on the patient's condition, both local and general. It constitutes one of the most gratifying methods of treatment in the venereal specialist's work.

Without the patient being told what the massage was for, what it was expected to accomplish, he will either at once or at the next visit volunteer the statement that he felt better immediately, that not only did he feel an improvement within the rectum and perineum, but he felt generally better. In fact, even a mere examination of the prostate gland, in which you sweep the finger around the gland to determine its contour, size, and consistency, and in which you do hardly any expression, produces a beneficial effect. There is no exaggeration in saying that the effect of prostatic massage is often simply marvelous.

The Technic of Massage.—The way to perform massage properly and effectively is, to have the patient, standing with his legs well apart, bend over a chair or the examining table, firmly supporting himself with both hands. The index-finger of the gloved hand, over which an extra finger-cot may be put on, well anointed with petrolatum (for rectal examinations I prefer petrolatum to the water-soluble lubricants), is introduced gently into the rectum, and the prostate gland is gently but firmly massaged, first from the right side toward the median line, then from the left side toward the median line, then a few firm pressing strokes are made from above downward. Special pressure is applied to any induration that may be encountered or to any specially sensitive area.

When the massage is completed the patient is told to get up gradually [illegible] from his stooping position, and then is given a glass to urinate in. The urine will carry the prostatic secretion.

This is for ordinary cases, in which there is little discharge, and that chiefly mucoid. But, where there is much discharge and of a purulent character, it is best to have the patient urinate first, then to fill his bladder with a 2-percent boric-acid solution, then massage him, then tell him to urinate, and after he has urinated it is well to inject into the bladder a dram or two of a 1 : 1000 solution of silver nitrate, depositing a few drops of the same solution throughout the course of the urethra. This is, to prevent any infection from the prostatic secretion.

Massage in the Horizontal Position.—Some physicians perform prostatic massage with the patient lying on his back or even on his side. I am opposed to this position, because it is much more unsatisfactory than the standing-stooping position. The finger can never reach quite as far with the patient lying down as with the patient standing up and pushing his prostate gland against the finger. Nor can the physician's finger ever get such a leverage with the patient in the horizontal position as when the patient is standing.

For the mere purpose of examination the recumbent position may be sufficient, and when the patient is of an extremely nervous temperament and subject to fainting spells, that position must sometimes be chosen, but it is never the position of choice, and we can never be sure of giving the patient a thoroughly satisfactory massage in that position. Another point, perhaps not of so much importance, but still of some importance, is, that when the patient is stooping down the secretion, through gravity, has a tendency to run out of the urethra; in the recumbent position, it is sure to flow back into the bladder.

Abuse of Prostatic Massage

There is no therapeutic procedure, beneficent as it may be, that cannot be abused or overdone. This is true of massage. Useful as it is, much damage may be done by it if it is performed too brutally or too frequently.

There must never be a digging of the fingertips into the prostate gland; there must be only a pressure with the entire palmar surface

f the finger. Too much force must not be used, or the inflammation instead of being allayed may be increased in severity or even necrosis may be caused. Nor must the massage be performed too frequently. But here no dogmatic statement can be made as to what constitutes frequency: some patients can stand massage every other day, some only once a week or once in ten days.

Massage must not be performed when there is acute inflammation in the prostate gland or an acute exacerbation of a chronic inflammation.

Besides the aggravation in the condition of the prostate gland itself that the too frequently or too brutally performed massage may cause, it may also cause an epididymitis, a seminal vesiculitis, and even sciatica. Not too much zeal in the best of causes!

A Few Minor Points

1. Some patients come to the office with full recta, the feces pressing on the prostate gland. This makes it unpleasant for the physician, for it not only occasionally interferes with the proper performance of the massage, but it induces in the patient a desire to defecate. Such patients should be told always to empty their bowels before coming to the physician's office. If they cannot do it spontaneously, they should take an enema.

2. Where the secretion from the prostate gland is so profuse as to run from the urethra, the patient is instructed to support himself with one hand only, holding in the other hand a small glass under the penis to catch the secretion.

3. Be on your guard and watch your patient very carefully when giving him the first massage, for some patients faint after the first massage. Let the patient get up from his stooping position very slowly, make sure that he is not pale, and that he has no sensation of fainting. If he complains of a sense of weakness, the best thing is, to lay him down on the examining-table or couch for a few minutes. Some sensitive patients are apt to vomit profusely.

4. In some obstinate cases of prostatitis, I have found the introduction of a potassium-iodide and iodine suppository, followed by a gentle massage for five to seven minutes, very beneficial. The massaging apparently causes a much greater absorption of the potassium iodide and iodine than will the mere introduction of the suppository.

Intravenous Medication

When and How Employed

By W. N. Fowler, M. D., Kalamazoo, Michigan

WHETHER medical nihilism or the present craze for surgical procedures has been the incentive to increased interest in intravenous medication does not particularly matter, for, certain it is that the growing interest in this method of administering drugs will be able to hold its own, because of the prompt results and many other advantages accruing, not only to the patient, but to the physician as well. The danger associated with this procedure has been largely overestimated, and the older teachings about "air in the vein" and its untoward effects can be disproved without effort.

It is not my intention to discuss the chemistry of the body or the solutions that have been administered through the blood stream. The number of drugs that are being administered in this way is comparatively large and is steadily growing. Almost the first one so to be used was sodium salicylate with its combinations, for rheumatism in its various forms. This remedy, combined with caffeine, is being used very successfully in acute and subacute conditions. It has been combined with colchicine with remarkable success; still, care must be exercised in the administration of this combination, although the results warrant its use in many cases.

Sodium Salicylate in Tuberculosis and Rheumatism

Sodium salicylate combined with guaiacol has been used in rather large doses in quite a variety of chronic ailments and at one time was heralded as a successful remedy for tuberculous conditions. We are not hearing so much of it lately, since some unpleasant and alarming experiences with the large doses have made physicians more cautious.

Rheumatism is a condition caused by non-neutralized acid poisons of protein metabolism, and sodium salicylate was thought at one time to be a specific; but the truth of

Filling the syringe

the matter is, we can have no specifics, because of the wide variations of the constitutional conditions of our patients. Anything that will restore normal resistance and metabolism is a specific for that condition in this particular patient, but not so in his brother, who fails to respond to the same treatment for apparently the same condition.

Iron and Other Reconstructives

Iron, sodium, potassium, calcium, magnesium, phosphorus, and creosote in various combinations have been used for diverse conditions, including anemia, neurasthenia, skin diseases, pretuberculous conditions, and exhaustion following protracted illness. It is surprising how quickly these patients respond to the iron and phosphorus solution.

Some Uses of Mercury Intravenously

In the early manifestations of syphilis, also in septic infections, mercury has been remarkably satisfactory, and Doctor Hanor, Doctor Jones, and a French physician (whose name I cannot recall) report very prompt results in cases of chronic malaria. Doctor Hanor writes me as follows:

"After receiving your suggestion relative to the case of chronic malaria that failed to respond to the 10-grain doses of quinine and urea bimuriate, I gave the patient 1-40 grain of mercuric chloride. The patient showed improvement after the first injection, and his temperature soon became normal; the symptoms are all clearing up and the blood stream shows no malarial parasites. An Indianapolis physician reports a very interesting case of malarial infection complicated with a gonorrheal rheumatism. He thanks me for my suggestion and adds: 'I am giving mercuric chloride, 1-30 grain in the solution, every third day, and my patient looks and feels like another person after having received but two treatments.' A case of sepsis following an abortion cleared up promptly after two injections twelve hours apart."

Mercury has always been a valuable remedy, but the prompt action, without danger of salivation, enhances its value many times.

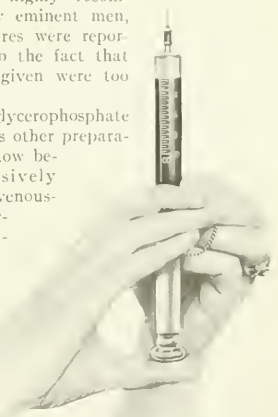
Iodine is another remedy that has produced some brilliant results, as well as failures, through the intravenous route.

Sodium Cacodylate

Cacodylate of sodium (organic arsenic), contains 48.6 percent of arsenic, equivalent to 61.8 percent of arsenous oxide.

Since the European war, the difficulty of obtaining Ehrlich's preparations has revived the interest in the cacodylate of sodium. Although this preparation had been highly recommended by eminent men, many failures were reported, due to the fact that the doses given were too small.

Sodium glycerophosphate and various other preparations are now being extensively given intravenously, with perfect satisfaction.



Proper position of the syringe in expelling the air.

Distending the vein after the needle is inserted

locally or constitutionally, except very rarely a slight degree of vertigo for a moment or two.

Now for the Details

My technic usually is as follows: I use Luer syringes, the 5-, 10-, and 20-Cc. sizes, and occasionally an Underwood pressure-apparatus. I use platinum or platinum-alloy needles, 27 generally, occasionally a 26. Either does nicely. The needles and syringes, with plungers removed, are boiled for two minutes; then pour off the water, and, while still hot, affix the needle and pour the solution into the syringe; then place the plunger into the opening of the syringe and invert. Thus, in pushing the plunger into the barrel, the air is forced upward and out through the needle. Now place syringe back into the dish in which it was boiled, until it is to be used. (I use a shallow enamel stew-pan with handle and cover.)

The fact that hundreds of physicians are administering remedies by the intravenous route does not mean that it has no danger. Thousands of men are opening abdomens every day, but you would not say there is no danger. The utmost care must be taken for this simple procedure, the same as for opening the abdomen. Cleanliness and godliness are near relatives, and dirt and the devil go hand in hand. No physician who is not clean in his personality and habits has any business with the scalpel or the intravenous needle. The blood stream will not tolerate dirt without making a fuss.

If you want to take up the intravenous treatment, *be clean*. Never undertake a treatment without boiling your syringe and needle. Cleanse the patient's arm over the area to be treated with soap and water and alcohol. Always keep your solutions tightly closed and away from dust and light, so as to prevent deterioration.

There is considerable variation in the technic of intravenous treatment. If one has a hospital where he can keep the patient under observation, it is a much more impressive procedure to use the neosalvarsan gravity-apparatus and a 17 needle; to dissect out and ligate the vein, and to use a larger amount of solution; but this procedure is entirely unnecessary.

I give the treatments mostly in my office. There is absolutely no disturbance

Place the patient in a good light, either sitting or reclining. Cleanse the arm over the location of the median basilic vein, though any vein that shows prominently may be selected. Place a constriction (a napkin or a rubber constrictor) above the site of injection. Take the syringe in the left hand, expel the air with the right hand (unless you are left handed), hold the skin steady over the vein, then, with a firm, unhesitating pressure, push the needle through

Injecting the fluid after removing constriction.

the skin and vein wall, using care not to thrust the needle through the posterior wall of the vessel. A little experience will enable you to tell when the needle passes into the lumen of the vein.

You can determine positively that the needle is within the vein by withdrawing the plunger slightly, when the blood will be seen coming back into the lumen of the syringe just back of the needle; but, if the light is not the best, you can see the blood more easily by slipping a piece of white paper between the patient's arm and the barrel of the syringe.

Be very careful not to inject the solution into the tissues. All intravenous solutions must be alkaline, and alkalis in the tissues make trouble and bad sloughs, which are slow to heal; and that hurts your reputation as a skilful operator. If you fail to place your needle properly, your patient will complain of its hurting—not always a pain, but an indefinite aching. Always readjust your needle, and be sure you are right before you push the plunger down.

You should hold your needle at an angle of about 20 degrees from the [illegible] and after making sure the point of the needle is properly located, push the plunger down slowly. I usually take about two or three minutes for 10 Cc. of solution, more or less in the same proportion.

The injection of the solution should be painless and there should be no after disturbances, although quite often a reaction is experienced from the large doses of salicylate. These patients should be kept in bed until the reaction is over.

Many physicians attempt intravenous medication in a half-fearful fractional dose way and they say they get no results, which doubtless is true. At the same time it refutes the often-made statement that the effect of this method is purely psychic. But the physician who studies his cases and the solutions he uses, realizes that he gets results well worth the effort.

Nonoperative Gynecology

By William Rittenhouse, M. D., Chicago, Illinois

Professor of Obstetrics, Loyola University

EDITORIAL NOTE.—This is the first of a series of articles upon nonoperative gynecology promised us by Doctor Rittenhouse. This is a topic in which we know a great many of our readers are interested, since we have frequently had requests for papers upon this subject. Doctor Rittenhouse will be glad to answer any questions, and we hope that the series may bring out a good many comments.

THE editor of Clinical Medicine has repeatedly requested me to contribute a few leaves from my experience in office-gynecology; and he always emphasized the idea that it should be something practical—not necessarily something extraordinary, but especially embodying my own methods of dealing with the ordinary ills of the reproductive system, for which women seek relief in the doctor's office. At first sight this subject seemed so commonplace that the readers of this journal must surely be as well informed upon it as I. After reflecting, however, three considerations occurred to me that finally induced me to write.

The first consideration was, the hunger shown by the students in my classes for every bit of practical information of this nature, and which, incidentally, might be introduced in my lectures on obstetrics. Not only have they always noted with eagerness any information on this subject, but they have almost constantly plied me with questions regarding it, expressing at the same time their sense of the inadequacy of the help they could obtain from textbooks.

The second consideration was, my recollection of the sources from which I myself gathered most of the practical knowledge which I possess. These were not mainly classical sources, such as textbooks, or scientific papers read before the big societies, but personal experiences gathered from the rank and file of my fellow practitioners in their daily work. For twenty years I have been a member of a club of twenty-five doctors who live reasonably near each other and meet once a month at each other's house. At these meetings, we always discuss from the standpoint of our own experience some subject of practical value selected anywhere from the whole field of medical science. It is the general testimony of our members that we get more practical ideas on our work from this little club than from all the other societies to which we belong. It is the

touchstone of personal experience that transmutes this knowledge into the fine gold of practical usefulness. I often think that possibly in our medical teaching of today we may be giving too much attention to the extraordinary, and not enough to the ordinary.

My third excuse for this series of articles is the considerable number of gynecological patients who drift from one doctor to another without having obtained the relief they sought. While some of these are hypochondriacs and are only happy when drifting, nevertheless there are too many who have failed to get well because of faulty diagnosis or wrong treatment. No doubt I have unwittingly contributed my share to this unhappy army of sufferers; but I feel that with a freer exchange of experiences we might all do better work. If my experience happens to prove of value to others, I shall be glad, but I shall be more gratified still if these articles bring out from the readers of this journal suggestions of their own which I feel certain are capable of opening a mine of unsuspected richness.

How Good Things Are Discovered

Most doctors could, no doubt, recall instances like the following. I was consulted by a married woman who had not menstruated for over nine months. She was very fleshy and her doctor had too readily accepted her own diagnosis of pregnancy. When the little stranger failed to appear on schedule time, her doctor took her to a gynecologist of large experience, who confirmed the diagnosis of pregnancy but set the date of delivery further ahead. Dissatisfied, she came to me. I made certain that the woman was not pregnant at all, and suggested to her physician a line of treatment which soon restored her normal functions. Two years later, she came to me again, stating that she was having the same experience as before, that her periods had been suspended for many months, and that her doctor had used the same line of treatment which I had suggested two years previously, but this time without success. After an examination, I said to her, "you will have a baby inside of two weeks!" and she did.

Another example: I was consulted by a young woman two years married, who, during that time had suffered intensely from dyspareunia and was approaching a condition of complete nervous breakdown. In the city where she lived, she had been treated unsuccessfully by her physician and finally had been taken to a hospital and had both ovaries removed—at least, so she was informed. She had a laparotomy-scar, but the ovariotomy could not have been complete, for she became pregnant later. After the operation, she had grown worse instead of better. I found the cause of her dyspareunia, namely, a large and intensely sensitive urethral caruncle, Its removal, followed by appropriate treatment, entirely cured her dyspareunia in less than a month. By the way, the surgeon got $200 for the laparotomy; I got $25 for curing her. That was all she had left.

But I need not multiply instances. I merely wished to emphasize the fact that slovenly diagnoses are deplorably frequent, and perfunctory routine methods of treatment equally so.

Before proceeding to the consideration of individual conditions and their treatment, I want to say a word about diagnosis and methods of examination.

Concerning Diagnosis

There are some men who seem to have a genius for diagnosis. They seem to see what ails the patient by instinct. The apparent ease and certainty with which they do this is sometimes quite discouraging to us ordinary mortals, especially in our early years of practice. Someone has said that genius is merely the capacity for taking infinite pains. While this may not be literally true, it nevertheless contains a great truth. The beginner who looks enviously at the skill shown by the trained diagnostician has it in his power to reach in time the same envied accomplishment. But he must remember that success can only come by patient observation, system, thoroughness, and everlasting perseverance. The way to learn how to do a thing is, to do it—and keep on doing it. And then all this must be vivified by breadth of view. The narrow man will never become a good diagnostician. He is unable to rise above rules. Rules are good servants, but bad masters. Only through the trained judgment can real broad-mindedness be acquired.

Confidence in one's self is another requisite in making a good diagnostician. If I may be permitted to make a personal confession, I will say that it was only after I began to have some consultation-practice that I began to do my best work in diagnosis. The fact that others had confidence in me gave me confidence in myself, and my work improved accordingly. One should always keep before one's mind the resolution, "What others have learned to do I can learn to do."

I referred above to the necessity of the examiner exercising observation, system, thoroughness, and perseverance. These qualities are all indispensable, and it would be difficult to say which one is the most important.

The average human being is a poor observer and, so, most of us are compelled to acquire the art of observation by training. This training ought to be largely acquired in medical college, but the modern course is so crowded with things which the student is expected to memorize that he has little time for real training of his powers of observation. It would be of great value to every student if he could have a thorough course in some one of the natural sciences—botany, for instance—just for the purpose of developing his observing powers. So true is this that the doctor who, as a matter of recreation, takes up the study of botany or geology or entomology finds himself well repaid by becoming a better observer, to say nothing of the benefit to health gained by outdoor study.

System, too, is of the utmost importance in examination. From lack of system, the examiner often finds that he has omitted or overlooked something that was very important for him to know. The use of a system does not necessarily imply the use of a case-record—a printed form with a long list of questions. Those who like this method no doubt derive benefit from it, and I am free to admit that it has some advantages. But it has never proved quite satisfactory in my hands. When one has to get through a crowded office-hour on schedule-time, I prefer to get at the salient points of a case by a few incisive, well-selected questions, to make a few important notes, and then proceed to a thorough physical examination. In this matter, as in some others, I have, during the past thirty years, revised my methods in the direction of greater simplicity, with benefit to myself and with no loss to my patients.

Thoroughness in physical examination is, of course, so essential that no argument need be wasted upon its importance. But the need of thoroughness is no excuse for the brutal roughness of some doctors. Men of a certain mental caliber profess to believe in a philosophy which they express as follows: "The more you hurt them, the better they like you." This bit of wisdom (?) is about on a level with that formula occasionally heard from the laity regarding a doctor who drinks: "Doctor A. drunk knows more than the other doctors sober."

To be kind and considerate to avoid inflicting unnecessary pain, to show due consideration for a patient's feeling of delicacy—these things pay in dollars and cents, even if we ignore higher motives.

In this series of articles, I shall not attempt to present an exhaustive survey of the whole field of gynecology, but shall simply select such ailments or such methods of treatment as seem to possess decided interest.

Endocervical Catarrh

One of the commonest conditions met by the gynecologist is that of catarrh of the cervix, often called "ulceration" even when no true ulcer exists. This condition is met with at all ages, in the single as well as the married, in nulliparæ and in multiparæ. In women who have borne children, it is often the result of laceration of the cervix and the accompanying eversion. The lips of the torn cervix are widely gaping, exposing the interior of the cervical canal, which has an eroded appearance, with an intensely catarrhal condition of the muciparous glands.

Where there has been no cervical laceration, we have a similar condition, but less intense; although, if the condition is of long standing, there may be erosion around the external os, even to the extent of true ulceration. The marked characteristic which all these cases have in common is, the mass of tough, thick, ropy mucus that fills the cervical canal and adheres so firmly to its walls as to defy all ordinary efforts for its removal.

Catarrh of the cervix is generally regarded as a symptom of some other and deeper-lying pathologic condition, but we often see cases where no cause can be found and where successful treatment leaves the patient perfectly well. Possibly in such cases the catarrh was caused by a temporary condition, which recovered spontaneously while the catarrh persisted. An abortion or a uterine misplacement I believe will often start a catarrh that may persist long after the original condition has gotten well.

Among the commonest causes of endocervicitis are: uterine misplacements of every kind, all sorts of infections, including those resulting from attempts at abortion, subinvolution following parturition or abortion, and so forth.

The symptoms vary greatly. In some cases, there is backache or general pelvic discomfort. In others, the symptons are almost *nil*, and the only thing that brings the patient to seek relief is, the inconvenience of a more or less offensive vaginal discharge.

The diagnosis presents no difficulties. The characteristic plug of mucus protruding from the os is easily recognized. If a lacerated cervix exists, the examiner should not fail to recognize it, for he cannot hope for a cure without repairing the lesion. Failure to recognize this condition is a diagnostic error which occurs oftener than it should.

The Treatment of Endocervical Catarrh

The reason why I have selected catarrh of the cervix for first discussion is, aside from its frequency, the fact that in my early experience it was one of my most difficult problems, a most intractable condition, while now it is one of the most manageable. The difference lies in the use of common tincture of iron. Since I have learned the effectiveness of this simple remedy it has been a constant source of wonder to me why so few gynecologists use it. While it is one of the remedies for this condition mentioned in the textbooks of twenty-five years ago, its true value does not seem to have been appreciated.

The real problem in treating endocervical catarrh is two-fold: first, thoroughly to remove the tough cervical mucus, and, second, to make an application to the diseased surface that will control the catarrh.

Various methods have been suggested for removing the mucus. If it is not thoroughly removed, the remedy applied will be ineffective. The most common method is, to attempt to suck it out by means of a long-nozzled syringe. But the removal is imperfect and it is not an easy matter to keep such a syringe clean and aseptic.

The tincture of iron solves the problem to perfection, provided certain simple precautions are observed. One danger is, to use too much, and so cause unnecessary pain. Another point is, to allow a minute or two for coagulation to take place.

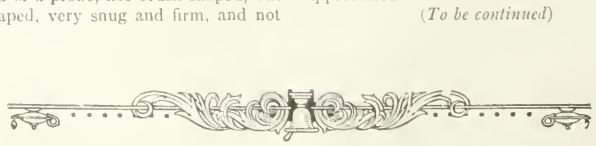
A bivalve vaginal speculum is introduced. A cylindrical one will do, but affords less room. With a wisp of cotton in the dressing-forceps the parts are wiped as dry as possible, so as to avoid having the iron solution run where it is not wanted. Then a bit of cotton is wound on the end of a probe, not brush-shaped, but cocoon-shaped, very snug and firm, and not too large. These little details are important, as experience will soon show. The cotton is dipped into tincture of iron, the surplus carefully removed so it will not run, and then the application is made inside of the canal being careful not to go through the os internum, as a bit of the iron getting into the uterus would cause severe pain—uterine colic. The application should be rubbed against the inner wall of the cervical canal for a few seconds and then withdrawn. After waiting a minute or so for coagulation to take place, the probe is again used, this time with dry cotton. The mucus is now in curds and can easily be removed, leaving the canal clean and dry if the amount of iron used has been correctly gaged. Any other desired remedy may be applied to the catarrhal surface, of course, but I have found that in many cases this is not needed. The iron not only helps to clean the canal, but is one of the best curative applications we possess.

Formerly I thought it necessary to follow the removal of the mucus with a swabbing of tincture of iodine and the placing of a vaginal tampon of cotton soaked in glycerin; but I find that most of my cases improve just as rapidly on the iron alone. As stated above, my tendency is toward simplicity of treatment. Where there is noticeable enlargement of the cervix, or subinvolution exists, it is well to apply the iodine and place a glycerin tampon, and also to order daily douches of large quantities of hot water. The patient should be instructed to use the water quite hot and have it flow very slowly.

In those cases where laceration of the cervix exists, the above treatment should be used for a time to put the parts in good condition for a trachelorrhaphy. It is not difficult to get improvement, but it will only be temporary if the tear is not repaired.

When I consider the formidable list of powerful caustics that have been recommended for the treatment of endocervical catarrh and the instruments that have been devised for the same object, I am inclined to marvel that this simple and successful iron treatment is so little known and appreciated.

(*To be continued*)



The Abuse of Surgery

The Cataphoric Use of Thiosinamin in Gynecology

By Frank B. Patterson, M. D., Marshall, Michigan

A FEW decades ago, before medical science had made the progress that it has in recent years, and with the consequent development of various specialties, any medical graduate was considered competent, not only to prescribe for the sick such drugs as were indicated, but also to perform any necessary surgical operation. The technic of general surgical work is, as a rule, simple and, if economic conditions were the same now as then, the family physician would still be using every means at his disposal for curing his patients.

Now all this has changed, therapeutic nihilism being most rampant and operations altogether too fashionable; and such people as are unwilling to undergo surgical operations, and fail to get relief at the hands of the family physician, are driven to the quacks. It is, indeed, surprising, nowadays, from what a physician observes during consultation, how little, in fact, the average doctor really knows about the physiological action of drugs. Some even go so far as to boast that they can get along with only a very few drugs, overlooking the fact that of several remedies having very nearly the same physiological action no two really are identical in effects: for there are many fine shades of action that the true therapeutist appreciates, but which the rank and file of the profession carelessly overlook. One ought not even to confine himself entirely to one school of medicine; for, though he may have been educated as a regular physician, it is a serious mistake to overlook the good things offered in the materia medica of the eclectic and homeopathic schools.

Nowadays, if the family physician can possibly find some excuse for so doing, he rushes a patient to some hospital for an operation. The surgeon, of course, does not dispute the diagnosis of the family physician, as it is against his principles to turn down a big fee; and, thus, many operations are performed, the unnecessary as well as the necessary. It is, as we all know, a noteworthy fact that many a healthy appendix has been removed and that tubes and ovaries have been sacrificed galore.

Instructions in Therapy at Fault

Why has the modern physician thus lost his individuality, especially in an age like this, when medical science is progressing by leaps and bounds?

Looking back upon our college days, we can see that in the light of present-day needs too little attention was devoted to the subject of materia medica and therapeutics, and that, of what time was given to that subject, there was a disproportionately large amount spent on the botany and pharmacology and not enough on the actual relation of the drugs to the disease-conditions which they were intended to combat. Also in the textbook and clinical instruction, in the practice of medicine, the students' attention was devoted mostly to diagnosis and pathology, while treatment was hurriedly passed by, with too much stress placed on authority. Consequently much misinformation was imparted that later had to be unlearned in actual practice.

With this crude and confused instruction in therapeutics, is it any wonder, then, that the proprietary-medicine manufacturers get in their deadly work, causing, as they do, many an otherwise promising physician to degenerate into a mere distributor of quack nostrums?

One of the most important reasons why surgery offers so much more alluring a field than does medicine is, the great discrepancy in the fees paid for work in these two branches of the profession. Moreover, though medical fees vary greatly in different portions of the country, surgical fees everywhere remain on the same high level. If one is in the profession—as unfortunately too many are—for merely what he can get out of it, and medical fees continue to remain so low, is it any wonder, then, that so few try to keep abreast of the times so far as their medical cases are concerned? For, the better a therapeutist a physician is, the more quickly he cures his cases, thereby making fewer professional visits and consequently receiving less remuneration; present conditions thus place a premium on incompetence and inefficiency.

Now let us take a hasty glance at the surgical aspect of the situation. Many a doctor with combined surgical and commercial aspirations secures a private dwelling in some small town and fits it up for a hospital, offering general practitioners commissions on surgical cases sent by them to his institution. On the surface, that seems only fair for the

surgeon, whether he be a city celebrity or one located in a smaller place, thus to divide his fee with the family physician, especially when medical fees are so contemptibly small as compared with large surgical fees that must be forthcoming before the patient goes onto the table. But, when in consequence of this division of the fee the element of graft enters the entire profession and many need less operations are performed and public sentiment is worked up to the point of actually considering it a distinction to have been operated upon, then this division of the surgical fee should be considered in its own true light, along with abortions, as a criminal traffic in human life.

Thiosinamin Cataphoresis for Cervical Scars

The long train of symptoms and conditions of chronic invalidism in women, due to a lacerated cervix, is well known to the profession. Up till about four years ago, I used to resort to trachelorrhaphy as a means of cure and became quite proficient in the performance of that operation. Of late years, however, I have been resorting to a better and safer line of treatment, so far as the patient is concerned; namely, thiosinamin administered cataphoretically. This method has the advantage over surgery, in that the cicatricial tissue is completely absorbed, rendering the cervix soft and pliable and thus reducing the danger of relaceration, at the next confinement, to a minimum.

In trachelorrhaphy, although the cicatricial tissue is trimmed out with curved scissors, still, no matter how good a job is done in the coaptation of the denuded surfaces, more cicatricial tissue—though less in amount than that removed—is unavoidably formed in the operative wound; and this is subject to a very severe strain during labor, while being less able to resist than is normal tissue.

The better and safer method of thiosinamin cataphoresis has the serious disadvantage, however, that it requires a course of treatments covering a period of about three months, the patient taking two treatments a week, except during menstruation, till altogether from 18 to 30 treatments are taken, as determined by the severity of the laceration and the strength of current tolerated. She is not detained from her usual duties, except that immediately following a treatment she must keep off her feet for a few hours.

How the Method Acts

Thiosinamin, being electropositive, is given off from the positive pole of the galvanic current and, in seeking the negative pole, passes through the cicatricial tissue of the affected parts, which it disintegrates. As salts of copper or other corrodable metal, are given off from the positive pole if an electrode of such a metal to that pole is used, the electrode here should be of platinum.

To this pole, absorbent cotton wet with a solution of thiosinamin, made as follows, is applied: Glycerin, fl. drs. 2; distilled water, fl. drs. 6; thiosinamin, grs. 40; sodium chloride, grs. 5. The glycerin is added to render the thiosinamin more soluble in water, while the alcoholic solution would interfere with its diffusion by means of the electric current. [There is a standard solution of thiosinamin on the market containing antipyrin in glycerino-aqueous solution, which seems to meet the condition admirably. — Ed.]

With the above solution applied to the cervix on a platinum electrode attached to the positive pole, a large copper pad electrode is applied to the negative pole and placed on the abdomen or on some other indifferent part of the body, then the current is gradually turned on until it registers from 15 to 30 milliamperes, according to the tolerance of the patient, and is continued for ten minutes. If there is also an adherent displacement of the uterus, the same treatment is likewise applied for the same length of time to the vault of the vagina. Following the galvanic current, the faradic current, with about thirty interruptions per minute and of a strength not sufficient to be uncomfortable, is applied to the affected parts for about five minutes, the object being to stimulate the circulation and carry away the disintegrated cicatricial tissue.

Two Cases

Some years ago I had on hand at the same time two parallel cases of laceration of the cervix with adherent posterior displacement. One of these patients stayed by me three months and was cured, but the other had a hysterical spell, sent for another doctor, who soon took her to some surgeon for an operation, and in a few days she was brought back in her casket. Likewise recently I had two other parallel cases of like nature, the one remaining by me till cured, while the other passed through some other physician's hands to a surgeon in a neighboring town. A bungling operation was performed, and a few months later the patient came back for another, which finished her earthly career.

It is not my purpose to decry the legitimate use of surgery, but simply its abuse. If

there were no financial incentive for physicians to refer cases to surgeons, it goes without saying that there would be fewer cases thus referred. Also, if every sudden death after an operation were subject to a coroner's inquest, surgeons would be more careful to be absolutely certain concerning its necessity before performing any operation.

However, under present conditions, there is all the incentive in the world to operate and no inducement other than the patient's welfare to devise other and safer means where the necessity of an operation is not obvious. Had I referred cases such as above mentioned to some operator, I should have avoided the responsibility of performing the operation myself and at the same time saved myself the exasperation involved in a long course of treatment, such as a patient's being negligent about observing appointments or of taking a few treatments and discontinuing. I would simply have had to take my patient to the hospital and have had my commission in my pocket before leaving, and would have had at the start as much as I finally did receive after a long course of treatments.

Take it as a whole, one cannot really blame a physician who takes this course, gets his money at the start and saves himself a great deal of annoyance. The fault is not with the physician who does so, but with the system which permits him to. It is not with surgery, where legitimately employed, but with the graft in surgery. If severe penalties were imposed upon the giving and receiving of commissions on surgical cases, there would also be less incentive for entering the medical profession, as the surgical field would be greatly contracted. Also, there would be much more incentive for followers of the medical profession to become more proficient in the therapeutic art, which is now rather undervalued. In other words, there would be fewer and better physicians.

Alcohol: Its Influence Upon Mind and Body

The Doctor's Verdict

By Edwin F. Bowers, M. D., New York City

Author of "Side-Stepping Ill Health" and "Alcohol, Its Influence on Mind and Body"

IS ALCOHOL a stimulant or not? Has it any right to be classed as a medicine, as many conscientious physicians assert, and, if so, what right? These are questions that have puzzled scientists, and split asunder the camps of the learned.

It must be admitted that the almost universal belief of humankind—including many doctors—that a "good drink" is a "bracer," sows the seed for a powerful mental suggestion in that direction. In other words, the psychological stimulant influence exerted by alcohol upon one dangerously ill might on occasion weigh the scales of life in such a one's favor. But, if this patient had the same faith—as many have—in an amulet, in pills made of bread, or in any other inert and innocuous substance or treatment, he would derive from it the same or even greater benefits. At least, he would suffer from them no reaction, such as follows the use of the narcotic drug alcohol.

Usefulness of Alcohol Disproved

However, there is no longer any excuse for giving alcohol as a medicine or as a stimulant. For, apart from its temporary reflex action, due to its irritating effect upon the delicate mucous-membrane lining of the stomach, alcohol, if it has any action at all, is a depressant.

Alcohol, given in diluted form, so as to avoid excitation by direct irritation, has been repeatedly given to dogs and men, without causing the slightest appreciable beneficial effects upon the heart's action or the circulation. Given in concentrated form, alcohol quickens the heart's action in perhaps a slightly more marked degree than do mustard, essential oils, and other irritants, but it falls farther afterward. The pulse pressure, which is temporarily increased immediately after the irritating reflex action of the fiery liquid, is permanently decreased. In other words, the pulse, after a momentary increase in volume, becomes smaller. So, if you want a temporary "kick," without paying too high a price in loss of energy for it, it would be far better to take a capsule of mustard or red pepper to accomplish this purpose.

The experiments which settled this complex problem are highly technical in their nature and were made under the strictest test-conditions and the use of the

plethysmograph, sphygmomanometer, and other instruments of precision for estimating and recording circulatory and blood-pressure changes. Most elaborate series of tracings have been taken—tracings that to the trained eye of the clinician are incontrovertible proof of the contentions of the experimenters.

Rise of Blood Pressure Temporary Only

Suffice for our purposes, however, to say that when moderately strong alcohol (mildly diluted whisky, brandy, etc.) was administered the local irritation of the drug produced a reflex rise in blood pressure and an acceleration of the heart's action, this reaching its highest in about one-half hour, and then it was invariably followed by a corresponding depression. When, on the other hand, whisky or alcohol (well diluted and, hence, not irritating) was employed, neither the maximum nor the minimum blood pressure showed the slightest variation that reasonably could be attributed to the action of alcohol.

Cabot concludes that, "so far as could be determined, the action of alcohol upon the circulation was *nil*," for, in none of the many experiments was there observed any marked change in the heart rate or blood pressure within one half hour of the administration of the alcohol, unless very large doses were employed. Then it was found that alcohol acted invariably as a circulatory and respiratory depressant. This depression was most marked upon those in greatest need of stimulus, as in typhoid or other septic cases. So, the more a patient needs a stimulant, the less he gets—from alcohol.

Therefore, while alcohol in concentrated form may act as an apparent circulatory stimulant, it cannot be regarded as a true tonic or stimulant, inasmuch as it decreases the heart's efficiency and lowers the pulse pressure. Alcohol has no more claim to be considered a tonic or a medicine than has oil of mustard or a red-hot potato.

So, then, the diversity of opinion among physicians concerning the value of alcohol lies in its psychic effect upon patients who are habitual users of the drug, in whom it buoys the spirits and engenders hopefulness and courage. This same effect, however, can be secured equally well by the administration of other remedies that give all the stimulating effects of alcohol on the physical organism without any of its depressing after-results.

Even the famous Professor Ewald, of Berlin, who has been widely quoted in defense of the therapeutic value of alcohol, now gives it only in certain forms of diabetes, particularly in incurable cases, in order to divert the mind of the patient from dwelling on the hopelessness of his condition. Others, under similar circumstances, might with equal propriety prescribe morphine and recommend its indiscriminate use.

The decided advantages of a nonalcoholic over an alcoholic régime in private practice and hospital-work is now quite patent to the profession at large. Indeed, it is even contended that the physician who prescribes alcohol in this era of advanced knowledge concerning alcohol and disease is unjust both to himself and his patient. And the time may not be so distant when to prescribe alcohol in sickness will be considered malpractice. For, alcohol has been proved entirely too lath-like a weapon to oppose to death when the stake is life.

Many conscientious physicians nowadays refuse to prescribe alcohol or even medicines in an alcoholic menstruum; not alone because of the evil effects of the drug upon the system, but also for fear of arousing a dormant alcoholic craving in some susceptible patient. For, not infrequently an intense desire for alcohol is flashed through deficiently resistant cells by a doctor's incautious alcohol-prescription. None can say when or where atavistic traits may flare up. A youth may have had a grandfather who was an alcoholic—so powerfully addicted that he transmitted the craving to his grandchild—jumping, as is the biological way, a sober generation, only to work sinister havoc upon the next one. The results are obvious.

The Pernicious Medicated Wines

This brings us to consider "medicated" wines, possibly the most pestiferous and pernicious insult to the intelligence of the human race that has ever been perpetrated. These almost invariably contain a relatively large percentage of alcohol, besides various other substances—such as malt, beef-extracts, pepsin, even coca-leaves, and sometimes rum. Wines that contain coca-extract have frequently been responsible for the formation of the cocaine-habit—one of the most dangerous and insidious of drug habits and perhaps of all the most difficult to cure.

Most people who take medicated wines are honestly deceived by them, since they look upon them as medicine rather than as "booze." Some even imagine that the presence of the beef-extract, malt or iron renders the "dope" harmless; which, though, is far from true—indeed, the very opposite

is the fact. Pickling malt or beef-juices in alcohol lengthens the period required for their digestion and thereby renders them less wholesome as food—for, of course, they can have no medicinal action, as such. A few cents' worth of freshly made Blaud's pills will give far better results than a dollar-bottle of "iron tonic"—and without risking acquiring the alcohol-habit or poisoning the protoplasm with an exceedingly cheap quality of whisky.

Now, within the memory of many of us who are only slightly gray, it used to be thought that a jug of whisky, a barrel of codliver-oil, and a glad, free life in the open air constituted a sure cure for consumption. But we know better now. We know now that whisky is "bad medicine," and especially bad for lung diseases, because of its effects upon the blood-vessels, and the phagocytes, besides its lowering influence on the general resistance.

Dr. Jacques Bertillon, chief of the Bureau of Municipal Statistics in Paris, and world-renowned as the originator of the famous Bertillon system of measurement—has given it as his opinion that alcohol may well be called the principal cause of tuberculosis. Supporting this contention, he cites the mortality statistics of one hundred thousand men of all ages, which show the death rate among abstainers to be less than half that of alcohol users—21.8 percent among alcoholic patients, as against 9.9 percent among abstainers.

Alcohol and the Respiratory Organs

In a study of 500 cases of tuberculosis, the use of alcohol was followed by a 40-percent higher mortality than occurred among those receiving no alcohol. In France, similar results were observed—immoderate drinkers dying in proportion of 52.8 percent; moderate drinkers in 25 out of 100 cases; while abstainers had a mortality of only 18.5 percent.

There is no doubt that alcoholism is the barometer of tuberculosis. The International Tuberculosis Congress, meeting recently in Paris, affirmed this relationship, when it officially proclaimed the necessity of proceeding against both, if tuberculosis were to be vanquished.

Also, the poisonous effect of alcohol on the circulation causes congestion, the formation of toxins, and the retention of waste material. The extra labors placed upon the heart, in an endeavor to overcome this condition, quickly result in fatigue, and this falls most heavily upon the lungs and nerve-centers. This helps to explain also the diminished resistance of alcoholics to pneumonia, as well as to tuberculosis and other lung diseases. This latter fact was emphasized during a recent antialcoholic congress in London. A study of more than 2000 cases of pneumonia, half of which were treated with alcohol and half without, showed a mortality of 31 percent when alcoholic "stimulation" was resorted to, and only 19 percent in those in which alcohol was taboo.

In two large cities in the East studies of death from pneumonia educed the significant fact that, in patients under fifty years of age, from sixty-five to seventy percent of those mortally stricken had an alcoholic history.

And this suggests that, if singers only realized the pernicious effect of alcohol—especially upon the delicate mucous-membrane lining of their respiratory passages and "voicebox"—they would embrace it with the same ardency and joyous abandon that they would a pestilence. For, alcohol, by its hardening and toughening effect upon the squarefoot of delicate mucous membrane which the singer uses in his business, causes the outer layers of this membrane to degenerate, so as to be utterly incapable of performing normal functioning, until such time as new tissue shall have been created to replace that destroyed by the alcoholic erosion. This fact also accounts, in part, for the hoarseness and the exaggerated resonance of the "morning-after" voice. Naturally, this effect is more pronounced in those who take their whisky, cognac or brandy "neat." Still, those who dilute their "dope" or who drink mild liquors, wine or beer get the same effect, in degree.

Other Evil Results From Spirits

This is proved by the catarrhal condition of the pharynx and vocal passages that is excited by an allopathic indulgence in beer or light wines: the relaxation of the uvula, soft palate, tonsils, and fauces is most marked.

Also, it is alcohol and patent medicines containing alcohol that are largely responsible for the prevalence of catarrh of the stomach and intestines—so frequently forerunners of grave and even fatal maladies. With true Adamic effrontery, we in America have attempted to put the blame upon woman and her reputed maltreatment of food. Be it gently suggested that the intelligent middle-class American housewife plays second fiddle to no woman in the world in the skilful preparation of appetizing, digestible, and nourishing meals. But alcohol takes from

her the wherewithal with which to purchase dainty comestibles, while depriving the man of the stomach to enjoy these dishes when they are presented

As for cerebral hemorrhage, more than 50 percent of patients dying are regular users of spirits. Also, many socalled cases of "heart failure" and sudden collapse have the same grim history.

In Munich, investigators have worked out, with true German painstaking thoroughness, the exact relation between alcohol and degeneracy. In a city where every man, woman, and child consumes a *per capita* allotment of an average of 287 pints of beer in a year, this study, naturally, is not difficult. The alcoholic content of this amount of beer is equal to 6 glasses of brandy a day for all hands. Professor Bollinger, who made autopsies on about 6000 of them, assures us that every sixteenth male in Munich dies of "Munich beer-heart," and he adds, for our further edification, that "one rarely finds in Munich a faultless heart and a normal kidney in an adult man."

Furthermore, long experience has demonstrated that no case of rheumatism or neuritis promises a successful outcome unless alcohol be absolutely interdicted.

It Mars Woman's Beauty, Also

While not distinctly a subject of medical interest, it nevertheless may be pertinent to mention that alcohol seriously mars beauty in women. Thus, it roughens the skin and produces discolorations and pimples. By inhibiting the action of the vasomotor nerves which regulate the expansion and contraction of the blood-vessels it causes a chronic congestion in the tiny capillaries underlying the skin; which dilation, if long enough continued, becomes permanent, because the "elastic" will have gone out of the vessels. This causes the skin to become red and flushed or in cold weather leaden or dull-purple, and produces the characteristic bulbous nose associated with alcohol drinking. Alcohol also makes the female breasts flabby, by robbing the supporting muscles of their normal vigor and tone.

And, as alcohol is responsible for much of our present-day neurasthenia, it follows that to it can properly be charged a considerable proportion of the wrinkles, crowsfeet, and haggardness of the neurasthenic. This, entirely apart from its subtle but certain effect in stamping its unmistakable stigmata upon the countenance of every woman who regularly indulges in the insidious drug.

Yet, alcohol is of undoubted value—used externally. In fevers, particularly, applied to the surface of the body, its chemical, water-absorbing, and rapid-evaporation properties give it a grateful refrigerant action. An alcoholic sponge-bath means rapid abstraction of the surface moisture of the body, with consequent diminishing temperature and relief of capillary congestion. This is the nearest that alcohol comes to being a medicine.

Alcohol Lowers Resistance

For, taken internally, alcohol is a narcotic; paralyzing, corroding or irritating every kind of tissue in the body, and the more delicate the tissue, the more pronounced the pernicious action.

Only recently it has been demonstrated that alcohol hinders the formation and the accumulation of glycogen in the liver, thus materially lessening the body's natural resistance to infection and, so, decidedly encouraging autointoxication from intestinal poisons. And the observations of Combe, Bouchard, von Norden, Bunge, and numerous other authorities have demonstrated beyond cavil the enormous role played by intestinal autointoxication both in chronic and acute disorders.

In certain kinds of work, alcohol, by breaking down resistance, renders the worker especially susceptible to disease, thereby intensifying the danger involved in the work itself. Thus, for instance, those who work with lead (as paint-makers, painters, etc.) are much more liable to lead-poisoning when drinkers than when they are abstainers, because the natural resistance of the body is lowered in trying to overcome the effects produced by the lead.

And, when the debilitating effects of the alcohol are added to the dangers of the lead, phosphorus, arsenic or what-not, the resisting forces of the body are overcome much more quickly than if only one enemy at a time is being fought.

The same principle applies also to those who are required to work in intense heat. First, because, under alcohol, the judgment is impaired and one is likely to expose himself more recklessly to the heat than he otherwise would; and, second, because his physical and his nervous resistance has been depreciated by the action of alcohol. Alcoholics, therefore, are peculiarly liable to sunstroke and heat-prostration.

Alcohol has also a pronounced and degenerating effect upon the teeth. Doctor

Floras, a pupil of the eminent von Bunge, and surgeon to the Anatolian Railway in Asia Minor, examined the teeth of 729 employees, divided into the strictly abstinent Moslems and those who had fallen into European drinking-habits.

Counting the number of decayed teeth in each class (their habits of life, except for drinking, being identical), he found that the average number of decayed teeth to each drinking workman was almost double that found in the abstinent class. In workmen between forty-six and fifty, this average rose to nearly four times as many. Professor Bunge and other physiologists have since repeatedly corroborated Doctor Floras' findings. It is also significant to note that Doctor Bunge finds a distinct decline in nursing power accompanying decay of the teeth, and he predicates both as being owing to one cause, namely, alcoholism.

So, it would almost seem, as Professor Bunge says, that, to dry up the springs of race degeneration, of which alcohol is the chief one, is a problem the solution of which admits of less delay than any other.

Authoritative Opinions

Dr. William H. Welch, ex-president of the American Medical Association, says: "Alcohol in sufficient quantities is a poison to all living organisms, both animal and vegetable." Dr. Howard A. Kelley writes: "It is clear, in the light of experience and of recent research-work, that alcohol should be classed in the list of dangerous drugs, along with morphine, cocaine, and chloral—a drug which may so affect the will-power as to gain the complete mastery over a patient and in the end destroy him. English and German physiologists have demonstrated beyond a question that the continued use of alcohol in any quantity is not only useless, but positively harmful; and, on the basis of experience, I appeal to my colleagues everywhere to abjure its use."

Dr. T. Alexander MacNichol, in one of his addresses, says: "Fifty years ago, men commonly believed that alcohol was food, tonic, and stimulant; but they were excusable for their ignorance, as little was known of the physiology and chemistry of the blood and tissues; the action of bacteria upon the functions and life of tissue-cells was a sealed book. The invention of instruments of precision and the application of more exact methods of examination have revolutionized our attitude toward alcohol. In the light of modern science, alcohol is not food, a tonic or a stimulant."

In a word, then, science has classified alcohol as a universal protoplasmic poison to all forms of organic life. And, Sir Victor Horsley remarks, "We cannot estimate what minimal amount we can safely take into our bodies and say that it will not be detrimental to our tissues."

The Society for the Study of Inebriety, concurring in the opinion of the English society, finds that alcohol has no tonic or stimulant power; that its real effects are invariably narcotic and paralyzant.

Dr. Louis D. Mason, president of the American Society for the Study of Alcohol and other Narcotics, delivered an address recently, in which he said:

"A large majority of the leading and influential practitioners of medicine and surgery in this country and Europe are excluding from their practice alcohol in any quantity and are also denouncing it in any form as a beverage. The great hospitals of Europe, on the continent, and in America and elsewhere, every scientific center reflects their action."

Dr. T. D. Crothers, of Hartford, after a lifetime's study of alcohol and its effects upon the human organism, concludes that

"The widespread use of alcohol as a beverage and the delusive theories which have grown up about it in medicine are due exclusively to its fascinating narcotic action for the relief of pain, discomfort, and suffering. It is not stimulation that is sought, but narcotism, anesthesia, and relief."

The Abolition of Drinking

So, with all these facts in mind, Health-Commissioner Goldwater, of New York City, has decided to clean up a small section of the universe by curtailing or abolishing drinking in New York. Doctor Goldwater contends that a "protoplasmic poison, lessening vital resistance, hindering the progress of the community, and fostering poverty and the diseases springing from poverty" comes properly within the scope of the activities of the health department.

So, twentieth-century expert medical testimony renders its final verdict in this:

Alcohol has no helpful function to perform for the human system, either in health or disease, as a beverage or as a medicine, under any circumstances, in any form or quantity or under any condition. It is the greatest, the most deadly, the most far-reaching, in its deleterious results, of all epidemics. There is for it no antitoxin, no vaccine—nothing but the powerful preventives of intellectual sterilization and mental sanitation.

First Aid in Injuries of the Scalp, Head and Face, and Their After-Treatment

By W. G. Brymer, M. D., Dewar, Oklahoma

THE subject of first-aid and emergency surgery and of the after-treatment of emergency injuries presents a much broader field than might appear on first thought. Unfortunately, this important subject has received but scant attention in textbook and current literature, and I intend to consider it at some length in this series of papers, laying particular stress upon the importance of the after-treatment. It may be of value not to limit my discussion to the surgical aspect, but at the same time to consider the financial and social relations of industrial injuries, because of their farreaching bearing.

Emergency surgery and first-aid work cannot be classed strictly under any of the subjects with which general surgery deals, because of the great variability and divergence of the problems presented. In any accident in which a number of men have suffered, apparently from the same causes, the injuries may be found to be of the most varied nature, and the resources of the emergency-surgeon are constantly strained to the utmost, to devise means and procedures for the suitable correction of the injuries and the attainment of the most useful results. Often the difficulties of the surgeon are aggravated by an entire absence of suitable first-aid material, so that, in consequence, the liability of the employer is increased, since an injury which by proper first-aid attention might remain a comparatively simple one will become complicated by infection through careless or ignorant handling; and not only will the damages to be paid be higher, but the ultimate usefulness and earning-power of the patient will be correspondingly diminished through the primary inefficient handling. It should be incumbent upon all industrial corporations to train their employees in the proper administration of first aid.

Lesions of the Scalp

Nearly all scalp wounds are infected, especially if caused by some blunt instrument by which the hairs are driven into the wound, while the clean cut, as a general thing, is closed automatically or by a blood clot and is not so likely to get infected. An abrasion or a contused wound is often overlooked and later becomes infected.

When you have a wound of the scalp to deal with, always be sure to give it the most careful consideration and antiseptic treatment, thoroughly cleaning it and then swabbing it freely with tincture of iodine. This is one of the best antiseptics for scalp wounds that I have ever used. It causes a rush of phagocytes to the field, which form a wall around the wound and prevent systemic infection, while, moreover, the iodine hastens repair through the production of inflammation to which it gives rise.

Large bruised wounds of the scalp should not be closed with ligatures, for trouble will surely follow. Rather cleanse the wound well with a 1 : 5000 iodine-solution or with alcohol, then apply tincture of iodine in full strength over whole surface, then cover with the sterile dressing. The results of this procedure are highly satisfactory, and you will be surprised, when you dress the wound the second time, to find that the ugly-looking sore, which you had at first, has changed to a simple wound that will give you no trouble.

On the other hand, suturing will invariably lead to suppuration and produce a bad wound. Scalp wounds heal better if they are left open.

These wounds have a tendency to heal rapidly if not infected, but, if infected, they generally prove most stubborn and are exceedingly dangerous; for, it seems that the absorption from the infected area very readily invades the blood stream and sets off a blast, so to speak, that destroys your patient's resistance very quickly. And then it requires heroic work to save his life.

In these infected cases, local antiseptics do very little good. It is necessary to supply the blood with an antiserum, in order quickly to fight the invasion of the enemy. My custom is, to inject directly into the vein a mixed serum that includes the antitetanic.

If the scalp wound penetrates through the scalp and periosteum of the skull, and the skull is fractured or mashed in, then you have on your hands another grave problem, probably concussion of the brain or blood clot and hemorrhage. In this case, invariably the patient will be comatose or, if not comatose, have paralysis of a limb or of the side opposite to that on which the trouble is located. The pulse is slow and the blood

pressure low. If the injury is frontal or occipital, the paresis of the extremity is absent, but there is always coma, low blood pressure, with reaction of the retina absent.

The first step in these cases is, to cleanse the external wound and rush the patient to the office or hospital, anesthetizing the scalp and periosteum with cocaine, 1-10 percent, and adrenalin chloride, 10 minims to 1 ounce of physiologic salt solution. Go down to the bare skull, remembering that the bone does not need anesthetizing, as it has no sensation. Trephine always. Raise the depressed portion of the skull, find the hemorrhage and the clot, remove the clot and stop the hemorrhage, again remembering that the brain-substance does not need to be anesthetized, for, like the bone, it is without sensation. Several times while I did this kind of work, the patient, after I had removed the clot and controlled the hemorrhage, became rational and talked while I was completing the work.

The main points, to which I want to call attention here, are, surgical cleanliness and ability to diagnose the trouble and its location. This can be learned from textbooks upon brain wounds, including locations and symptomatology. If you can get early to these brain-cases associated with fracture, concussion, clots, and hemorrhages, and are able to make the diagnosis, proceed. Do not wait, for, in my opinion, 90 percent of these cases end fatally for the want of early diagnosis and treatment.

If it be a clot and the hemorrhage has already ceased, haste is not important; but, how are you going to know that the hemorrhage has ceased? Look to the blood pressure and pulse. I have gone into some of these cases, alone, quickly, with local anesthesia, and have controlled the hemorrhage, with recovery of patient. Had I waited an hour, the case would have been hopeless.

Knowledge, combined with technic, will often save life where technic with procrastination means death. The emergency-surgeon must early learn to rely upon himself, and not upon his competitor. By this I do not mean that one should be overzealous to do one's work alone; but, when emergency demands, be ready and sure, then go to it. There is not a court or jury in the land but that will recognize your work.

Wounds of the Forehead

There are a few minor, but very essential, points in the surgery of scalp and face that are of importance. I refer to the repair of wounds on the forehead and eyebrow, in which bad scars can be avoided by the use of metal sutures. Stitch sutures invariably leave their traces, but a sterile metal suture will not do so. Be sure to get the edges of the wound duly approximated and carefully apply metal clamp-sutures tightly enough to bring the cut together firmly but not too tightly; then apply a soft sterile dressing. By this method, the scars will be very slight, also the corporation will save some money, for disfigurement or ugly scars on the face or forehead will speak louder than any attorney's words of rebuttal can do.

My usual procedure is, to cleanse the wound thoroughly, swab it with tincture of iodine, apply metal sutures, and then apply a sterile dressing; dressing on the third or fourth day and removing the sutures at the second dressing, because the wound has been closed sufficiently by the serum thrown out to secure complete union. If possible, do not use water in dressing wounds. After removing the stitches, I usually apply pure tincture of iodine to the places where the teeth of the metal sutures have made their mark. Under this procedure, I seldom get a scar larger than a sewing-thread. An exception must be made in case of coal-miners, in whom a dark-blue line will be found instead of the white thread-mark scarline. I have endeavored to overcome this, but so far without success. It is said that, if the coal-miner wants to produce positive proof of his identity as such, he will show some scar upon his body as his badge of the fraternity.

Another factor in scars of the face is their depth and length, and their direction upon a muscle. All deep scars I always close by making sutures of catgut, commencing just beneath the skin, coming out just beneath upon the opposite side and then closing the skin with the metal suture. This procedure has always proved very satisfactory. It is an advantage of metal sutures that, if a wound becomes infected, the metal stitch is easily removed and you can get to the seat of infection at once; still, if proper precautions are taken by swabbing the wound with tincture of iodine, infection will follow in less than 1 percent of cases.

I am talking about emergency-wounds that are seen within the hour, not those of several hours' standing. In over 1000 emergency-treatments done within the hour, I have seen less than 1 percent of infections. This may seem remarkable, but it is a fact. I treated 500 cases of two to three hours' duration, with

infection in 10 percent; 100 cases of from three to twenty-four hours' duration, with infection in 25 percent; and 30 cases of from twenty-four to eighty hours' duration, with 75 percent of infection.

If we use our utmost skill and knowledge, we may reduce the loss of time to the patient and corporation also the resulting disfigurement. Remembering that the infected wound of the forehead and face will invariably leave a scar, we must give our most energetic assistance to this part of our work, in order to prevent or overcome infection and diminish the resulting disfigurement.

What the General Practitioner Can Do in the Treatment of Chronic Diseases

By George F. Butler, M. D., Kramer, Indiana
Medical Director of the Mudlavia Sanitarium

[*Continued from page 517, June issue.*]

The Physical Effects of Massage

FOR the reason that friction and motion produce heat, the physical effects of massage are thermic in character. Because of its direct irritation of the skin and vasomotor nerves, massage forces increase of arterial pressure, the necessary consequence of which is stimulation, both of the manipulated area and the parts near by; even the entire organism may be included. When, the stimulation being continued, the arterial pressure is maintained above the normal physiological level, there must eventually come a reaction which, in the form of fatigue of the muscular coat of the arteries, is coincident with depression of the heart. Then the cutaneous vessels dilate, the deeper vessels are relieved of their load and the heart is lightened.

The strong influence of massage on the circulation may be illustrated by the effects of a vigorous and prolonged manipulation of the abdominal contents. The intraabdominal vascular pressure increases, inducing such a lessening of blood pressure in the farthest-removed regions that the feet grow cold and there is intracranial anemia. Insomnia often may be relieved by this treatment.

The antipyretic action of massage is due to the fact that surface stroking raises the heat-radiating power of the skin. In the treatment of typhoid fever, the cold-rub, combining, as it does, the antipyretic virtues of hydrotherapeutic applications and massage, is practical and efficient.

Classification of Massage

Massage is usually classified, for clinical purposes, as (1) effleurage, (2) petrissage, and (3) tapotement (vibration).

1. *Effleurage* includes all those forms and varieties of manipulation which, consisting of pressure evenly applied, are continued in a definite direction. The hand, the finger or a roller instrument may be used, and, if the effect is to reach the deeper structures and not culminate in or near the skin, a lubricant may be applied. Effleurage, of course, usually is directed centripetally, in a direction opposite to that of the arterial circulation.

2. *Petrissage* is the kneading of a part between the operator's hands or fingers, or between them and some hard structure (bone) of the patient's body. The hand or instrument does not move over the skin, but remains in firm contact with it, carrying it along as it advances.

3. *Tapotement* is percussion of the tissues by slapping, pounding or beating, for which the operator's hand or a suitable instrument may be employed.

Vibration, consisting, as it does, of the administration of rapidly repeated blows of more or less severity, is a subvariety of tapotement.

Contraindications to Massage

Massage should never be administered where the skin is inflamed, broken or sore; over atheromatous blood-vessels; in painful and inflammatory states of the deep tissues; in cancer or abscess, because of the possibility of stimulating absorption and encouraging metastasis; in pregnancy; in short, wherever the benefits of manipulation would be more than offset by the local or systemic injury done.

The ability to administer massage properly is gained, first, through understanding of the principles and theory involved, and, second, by the acquirement, through practice, of great manual dexterity. *Practice* is the essential element.

The tyro should begin by taking lessons of an accomplished masseur, who should demonstrate the various methods to him. I say accomplished masseur, for he is a rare phenomenon. Of all those who pretend to have successful experience, there are few really efficient scientific operators. Like some other recent therapeutic methods, massage, legitimate and valuable as it is in various directions, has many alleged practitioners who are mere charlatans, knowing but little of the principles of the system, devoid of the necessary manual dexterity, exploiting their pretentions for mercenary gain.

Gynecological massage, the form elaborated and introduced by Thure Brandt, a Swede, for the treatment of certain gynecological conditions, is worthy of careful study. Applied to strengthen the muscular supports of the uterus, bladder, and rectum, in cases of uterine displacements, prolapsus, cystocele, and rectocele, and to break up adhesions and promote the absorption of exudation, the part to be treated is fixed by introducing the index- and the middle fingers of one hand into the vagina, while the other hand manipulates the area through the abdominal wall. According to Brandt, the contraindications are, the presence of pus and cancer. Some surgeons, whose panacea is the knife, and a number of unskilled operators who have given this form of massage without avail, object to its employment as unsatisfactory. Probably the failures are due more to bungling methods than to the principle itself, for that is certainly good. Theoretical knowledge must be backed by practice, by technical education of the fingers and hands.

Vibration

Vibration, as already explained, is but a mode of massage, consisting of a number of strokes following one another in rapid succession and setting up a tremor in a part of the patient's body that should be more or less intense. Formerly this was accomplished by means of the operator's hand or finger, some masseurs having acquired a skill in this direction that was little short of marvelous; but, since the invention of the mechanical device known as the vibrator, this has almost wholly taken the place of the hands, for the purpose.

The vibrator performs the act of vibration so much more perfectly and conveniently than do the hands and fingers, that it has become well known and stands in no need of introduction here. Its use is, without doubt, more popular than that of any other mechanotherapeutic mode of application, while vibration in one form or another is given for almost every ill to which the human organism is subject, by operators ranging in skill and purpose from the scientific philanthropist down to the shampooing and massaging corner barber.

This widespread employment of vibration has, naturally, involved a large amount of amateurish empiricism, which has injured the cause in many directions—a result still further increased by the attempts of various manufacturing firms to exploit vibration as a complete system of medical practice, the object being, by aid of a flood of pseudo-scientific literature, to dispose of large quantities of vibrators at enormous prices. While this systematizing of vibration as a cureall, suggested by the success of Osteopaths more than by any other thing, is being attempted the instrument is taking the place of the Osteopath's hands and fingers.

It is an established fact that the vibrator, if properly constructed and applied, is a valuable factor in therapy, and there are many good instruments on the market, the best of them, probably, being operated by an electric motor. Before one undertakes to employ it, he should have a correct conception of its function, physiologically and therapeutically.

What is vibration? Taken in association with the instrument that produces it, vibration, properly speaking, is a succession of strokes following one after the other with considerable rapidity. These strokes may be long or short, forceful or light, while their character determines the depth of the vibratory impulse upon the tissues. In response to them, every molecule within the sphere of their action trembles more or less, the degree depending on their relative distances from the area of impact. This is vibration. When applied to the living organism, its effects are as follows:

What Effects are produced by Vibration?

As I have stated before, the most simple and elementary form of stimulus is contact. Any organic substance capable of being stimulated will respond to mere contact with any object, whence we have ciliary motion, ameboid movement, and so on. The firmer the contact, the more powerful the stimulation. If pressure, firm contact, be sudden and short, we call it a blow or stroke; a very rapid succession of these we call vibration. Thus then, vibration constitutes, primarily, a stimulus, in the sense in which I applied the

term to massage. It increases both quantitatively and qualitatively the local circulation, tones up the coats of the arteries, and, by raising the arterial pressure and thus improving the nutrition of the part, it stimulates excretion and absorption of waste products and corrects metabolism, while the pulse becomes fuller and slower.

Why vibration is indicated in passive congestion, especially when there is pain, torticollis, chronic rheumatism, lumbago, neuralgia, etc., can easily be seen. It brings about disintegration and absorption of low-grade forms of tissue (obesity) and stimulates the heart, if applied directly to the precordial region; it stimulates, by increasing its tone, the activity of the muscular structure (constipation). Its local physiological effect corresponds accurately to that of massage; for which reason the term "vibratory massage" is proper and adequate. Manual massage forms an effective therapeutic combination with vibration.

Varieties of Vibration

The osteopathic idea of influencing the different parts of the body through the central nervous system (spinal cord) and the employment of vibration as a kind of local massage have caused a division of vibration into two classes, namely, peripheral (local) and central.

Peripheral, or local vibration consists in the application of the vibrator directly to an aching part—as, in a case of lumbago, to the muscles of the back; to the muscles of the neck for torticollis; in the rectum, for constipation; or along the course of a painful sciatic nerve. It resembles a local application of massage, and whatever claim can truthfully be made for the local action of the latter, is also true, in a measure, of vibration. The primary effect is produced upon the peripheral nerves, the vasomotors, and there seems to be no doubt that the local phenomena follow in due physiological sequence.

There are four considerations of importance in the application, namely: (1) the angle at which the vibratory force explodes against the surface; (2) the degree of energy brought to bear; (3) the frequency of the stroke; and (4) the amount of pressure.

The *measure of activity*, that is, the stimulating effect exerted upon the deep tissues, as a rule, is in direct proportion to the relative intensity or depth of the stroke together with the relative diameter of the surface treated. The lateral stroke stimulates the skin and its component parts, and the greatest action is produced by a downward stroke, at right angles with the surface.

It cannot be denied that these points are of considerable clinical worth, but the technical aspects of vibration have been loaded down with a mass of minute details far out of proportion to their actual value; this, owing to the combined efforts of monomaniacal enthusiasts and the mercenary manufacturers of instruments—the former lacking knowledge and the latter knowledge as well as conscience. Vibration is not and can not be a special complete system. It is a therapeutic method, merely, although a good one.

Central vibration consists in the stimulation of the spinal nerve-centers, through which great therapeutic benefit is supposed to be produced in the regions which these centers control.

The exact execution of the vibration is determined by the effect to be attained. If to contact—the simplest form of stimulation—there is added pressure, the stimulating effect is augmented; and continued pressure finally tires out a nerve, which results in its sedation. Should pressure be continued beyond the sedative point, the activity of the nerve would be suspended and inhibition of nerve-function occur. Vibration being a form of interrupted pressure, it may be logically assumed that it can produce effects analogous to those of continued pressure.

The *effects of central vibration* may be classified as follows: (1) mild stimulation, from very short strokes; (2) powerful stimulation, from deep strokes; (3) suspension of nerve activity (overstimulation), from long-continued deep strokes.

The idea of acting upon pathological conditions through the central (sympathetic) nervous system is, theoretically, in perfect accord with the pathological view which regards all diseased conditions as results of (1) overnutrition, (2) undernutrition, or (3) perverted nutrition. As nutrition is practically synonomous with blood circulation, the idea of controlling local nutrition is resolved into the idea of controlling the circulation in an affected region.

We are as yet only at the beginning of the meaning and extent of the possibilities of central stimulation, and the subject is well worth our careful study and elaboration. Here, I can give only those general phases that are justified by our present knowledge of neurophysiology and our actual experience with central vibration.

In a general way, the anatomical location of the several central areas is indicated by the following vibration table:

	Cervical vertebrae
Circulation (face, head, brain)	1 to 6
Circulation (general)	1 to 6
Eye	1 to 3
Heart (muscular tone)	1 to 5
Ear	6 to 7
Heart (rhythm)	2 to 4
Organs of voice (larynx, etc.)	1 to 3
Mechanism of respiration	3 to 5
Thermic centers	2 to 5
Glands (lower jaw)	2 to 3
Diaphragm	3 to 5
Plexus (cervical)	2 to 4
Plexus (brachial)	5 to 7

	Dorsal vertebrae
Stomach	5 to 9
Relaxation of pylorus	5 to 8
Liver	6 to 10
Pancreas	7 to 9
Spleen	6 to 10
Intestines (small)	11 to 10
Peristalsis	5 to 10
Chill-centers (connected with thermic ganglia)	7 to 8
Kidneys	6 to 9
Diaphragm (through phrenic fibers of solar plexus)	11 to 12
Lymph circulation (through the splanchnics)	5 to 12
Lower extremities	2 to 12
	Lumbar vertebrae
Intestines (large)	1 to 4
Mechanism of micturition	1 to 2
Sexual desire	2
Sexual mechanism	1 to 5
Kidneys	1 to 3
Menstrual function	2 to 5
(Also 8 to 10, dorsal vertebrae)	

Vaccine- and Serum-Therapy in Everyday Practice

VI. Infections of the Skin and Subcutaneous Tissues

By W. C. Wolverton, M. D., Linton, North Dakota

[*Continued from June issue, page 512.*]

Carbuncle

AS REGARDS the direct etiological agent responsible for carbuncle, the staphylococcus aureus seems invariably to be the cause. However, this condition occurs so notoriously often as a complication of diabetes mellitus that in all cases of carbuncle the urine should be carefully examined, to see whether or not glycosuria is the underlying predisposing factor. If this is found to be the case, appropriate measures, principally dietetic, must, of course, be instituted.

An interesting sidelight is thrown on the subjects of diabetes and carbuncle by the reports of Shivdas (*Jour. Vac. Ther.*, vol. i, No. 4, p. 100), Miller (*ibid.* vol. i, No. 5, p. 157), and MacWatters ("Proc. Roy. Soc. Med.," vol. iii, No. 9, suppl., p. 178) on the results achieved by them in the treatment of diabetes by the use of autogenous staphylococcus-aureus bacterins prepared from diabetic carbuncle or ulcer. They employed doses of from 100 millions to 500 millions, usually at an average interval of one week, with a most gratifying reduction in the glycosuria. In 8 out of the 13 cases reported by these observers, the sugar disappeared completely from the urine and in 2 others it was reduced to a mere trace.

Considering the anatomic location and relations of the pancreas and its duct, it would seem reasonable and logical to combine the bacillus coli with the staphylococcus aureus in diabetic cases.

As regards the medicinal treatment of the nondiabetic cases of carbuncle, calcium sulphide and the triple arsenates are indicated. Free incision and applications of compresses saturated with Wright's citrate solution are necessary surgical measures and should be resorted to early. If there is known to be an undue tendency to coagulation of the blood, as shown by observation of a drop freshly drawn, then citric acid should be administered internally, as heretofore detailed.

General hygienic treatment should be employed, so as in every way to elevate the systemic tonus.

Carcinoma

As to the etiology of carcinoma, we have nothing to say. Consequently, we have no specific bacterin or serum-treatment to offer for this lethal condition. However, bacterial invasion frequently does occur, as a secondary pathologic process, in carcinomata which have broken down and undergone ulceration or sloughing. Then a bacterin prepared from the same variety of bacteria as that concerned in the infection will, undoubtedly, be of value in checking suppuration and sloughing and in getting rid, to quite an extent, of the fearful odor of decaying tissue.

Doyen described the "micrococcus neoformans," which, while it is not claimed to

be the specific cause of cancer, is, nevertheless, found quite constantly in malignant newgrowths. A bacterin prepared from this variety of microorganism (apparently a staphylococcus) has, in the hands of a number of competent observers, seemingly definitely and beneficially influenced pain and tenderness, amount of infiltration, and the cachectic symptoms; however, the patient must be given plainly to understand that in the great majority of cases the bacterin will have no influence whatever upon the ultimate outcome of the disease.

Many "cancer-serums" have been devised, but, up to this time, none has proved to be of any value.

Cellulitis

Cellulitis constitutes a secondary manifestation of a primary focus of infection located elsewhere in the body; if the cellulitis occur on one of the extremities, the primary focus will be found somewhere distal to the more obvious secondary seat of trouble. Quite often the primary focus is very difficult to locate, as the solution of continuity constituting the portal of infection may be exceedingly minute or may have healed over on the outside, while the bacteria may be actively multiplying in the deeper tissues. These infections of the subcutaneous cellular tissues travel along the lymph-channels; the infection thus traveling from the periphery of the body toward the more centrally located structures. When the infection reaches a lymph-node, or a collection of the latter, as in the groin or axilla, the progress of the infection is either temporarily or permanently halted. If the virulence of the invading microorganisms is great or the resistance of the immunizing mechanism at a low ebb, or both, this arrest of the infection may be brief, after which the invasion proceeds with great rapidity until another chain of lymph-nodes intervenes between the invaders and their ultimate goal, the blood stream.

The logical procedure, then, is, to locate the primary focus, if this be possible, open the same freely, drain thoroughly, swab it out well with full-strength tincture of iodine, and apply a compress kept wet with Wright's citrate solution. Ofttimes, too, it is advisable to scarify or make multiple incisions into the inflamed area and apply the dressing just described, for reasons heretofore explained at length.

Again, in many cases, it is advisable to make incisions at the upper and lower boundaries of the infected area and connect them by subcutaneous "through - and - through" drains. A case in point is that of a boy I saw in consultation with another physician, some years ago, before I had begun the use of the bacterins.

This boy had cut his knee, just over the patella, with a hatchet, and because this was a bright, new, and keen one, the wound had been regarded by his mother as "clean" who, therefore, merely applied a "clean" cloth and bandage. In the course of a few days, the wound had apparently healed and no trouble was apprehended, when suddenly the boy had a chill, then headache set in, and his temperature began to climb; in short, the boy had all the symptoms of a beginning severe infection, together with constitutional symptoms. A physician was called, who advised "a little aconite for the fever" and gave no heed to the underlying condition. The boy grew steadily worse and an area of cellulitis developed, just above the knee, on the anterior aspect of the thigh. The doctor thought he detected a "soft spot" above and external to the knee joint and cut into this spot, but found no pus, only a dirty grayish serum exuding from the cut surface. Becoming alarmed, he called for counsel, and I was summoned.

When I arrived at the farmhouse, the attending physician thought he had located another "soft spot" a little higher up than the first one and wanted to cut into it, requesting me to administer an anesthetic. This I was almost afraid to do, as the boy's condition was now desperate; for the cellulitis now extended above the groin, onto the abdomen, and so much septic absorption had taken place that the heart action was very rapid and feeble. Under light anesthesia, the doctor cut into the "soft spot," but with the same result as before. Coverglass spreads of the lymph which exuded from this new wound, made at the time, and examined by me afterward, showed a pure culture of the streptococcus. Finding no pus in this second incised area, the doctor "gave up," and, taking charge of the anesthesia, told me to do whatever I thought best.

I remembered what the professor of surgery at my alma mater had told us to do in such a case, namely, to "make lots of holes and put in lots of drains." So, I made three pairs of incisions into the subcutaneous tissues, three cuts along the upper border of the infected area, and three at the lower border. With a long uterine dressing forceps, pushed from the lower incision along under the skin and emerging from the upper incision, several

strands of silkworm gut were drawn through each of the three drainage tracts, and then a wet dressing was applied. Now the original wound was opened freely, when the same dirty grayish serum again was encountered. This wound was mopped out with gauze and then thoroughly swabbed with full-strength tincture of iodine. The boy then was given calcium sulphide to saturation, and strychnine as a supportive measure.

Here was a really desperate case, yet, the boy recovered speedily. And bacterin-therapy, had there been any such thing at that time, would doubtless have hastened his recovery still more. Had I known about and had at hand a stock streptostaphylo-bacterin at that time, I should have injected it a short distance below the infected area, into healthy tissue, so that the newly formed antibodies would have passed along, in the direction of the lymph stream, right to the "seat of war."

Erysipelas a Typical Form of Cellulitis

Erysipelas is the most typical form of cellulitis, being caused by a special form of streptococcus, hence, will be discussed separately.

Most of the cases of cellulitis I have seen were due to the streptococcus; however, other germs, notably the staphylococcus, pneumococcus, bacillus coli, and the bacillus pyocyaneus, may at times give rise to this condition.

I am sure that by means of bacterin-therapy I have "aborted" many incipient cases of cellulitis of the female breast; in other cases, where suppuration had already occurred and incision and drainage had to be resorted to, bacterin treatment materially shortened the drainage period and hastened recovery, besides materially lessening the amount of glandular tissue destroyed. In the incipient cases, resort must naturally be had to massage and the use of the breast-pump. A prophylactic measure of value is the sponging of the nipples, after each nursing, with pure alcohol; the latter having an antiseptic and "toughening" influence upon the nipples, tending to prevent their becoming macerated and cracked, while it has the further virtue of evaporating completely, leaving nothing for the baby to ingest at the next nursing.

In all cases of cellulitis in general, a close watch for collections of pus must be maintained, and, when such a collection is discovered, it must be opened and drained.

In cellulitis owing to the streptococcus, just as in other conditions caused by this organism, there is prone to be present an extensive hemolysis. Then some form of iron should be administered, for its hematinic effect. In such cases, the hypodermic administration of the citrate or of the cacodylate of iron is indicated and is probably the surest way of obtaining quick results. Strychnine is also needed, for its supportive effect.

In pelvic cellulitis, vaginal tampons saturated with boroglyceride, ichthyol, and tincture of iodine are of value when used in conjunction with sterile saline douches. The "Murphy drip" is of untold worth in this condition. When a pelvic abscess forms, drain it through the vagina, opening through the "pouch of Douglas," using a Kelly artery-forceps or the Mayo scissors to work your way through the posterior cul-de-sac. An ice-bag placed over the lower abdomen and pelvis has many advocates, and I believe it to be a measure of value. Bacterins, in this condition, should be injected into the inner aspect of the thigh, for reasons heretofore explained.

Cellulitis being an acute condition, the initial dose of bacterin should be relatively small, say, for the streptococcus, 20 to 25 millions; of the pneumococcus, the same as the streptococcus; bacillus coli, 25 to 30 millions; staphylococcus, 50 to 100 millions. The intervals between doses will vary, from twenty-four hours, to two or three days; lengthening the interval, and increasing the dosage as the condition improves.

In these acute conditions, it is well to employ a combined stock bacterin of polyvalent strain, one that contains all the varieties of bacteria likely to be involved, rather than to wait for a bacteriological diagnosis before beginning treatment. In this way, much valuable time may, and will, be saved. Some such combination as the well-known Van Cott mixture should be employed, containing about the following combination of pathogenic bacteria: streptococcus, pneumococcus, staphylococcus aureus and albus, and bacillus coli. This will meet the requirements of the great majority of cases.

Eczema

As we come to the subject of the bacterin-therapy of eczema, I feel that I can speak "as one having authority"; for, along this line, as well as in pneumonia, puerperal sepsis and acute rheumatic polyarthritis, I have had an unusually rich clinical experience. Just how many cases of eczema, in its various forms, I have treated since I began the use of

the bacterins some five and a half years ago I am not prepared to state, but the number has been large, and I can truthfully say that I have yet to be disappointed by bacterin-treatment in this usually intractable condition.

As I stated at the beginning of this series of papers, I have not, in the majority of cases, depended upon biological therapy alone, but have employed it in conjunction with other indicated remedies. And this has been especially true in the case of eczema. Whether or not bacterial infection is the primary cause of eczema, is a debatable question; in all probability the answer is in the negative. But, certain it is that in practically all cases of eczema there is a lowered resistance against the pyogenic bacteria that normally inhabit the superficial layers of the skin and which cause no trouble until a solution of continuity of tissue occurs or until bodily resistance against infection is lowered by some pathologic process such as eczema. Then the bacterial invasion is most likely a secondary trouble; but, in a large percentage of cases of eczema, especially in the more chronic cases, the eczematous process will not yield to treatment until the pyogenic infection has been overcome by bacterin-treatment. In eczema, the staphylococcus albus and staphylococcus citreus occur more frequently as the infecting organisms than does the staphylococcus aureus. It will do no harm, however, to use a bacterin containing all three varieties, or even these three plus the streptococcus pyogenes; then you are nearly certain to hit the target.

The same rule as to dosage holds here as elsewhere, namely, use small doses in acute cases, and larger doses in chronic cases. In either case, gradually increase the dose until a favorable response is obtained.

In infants and children, if a rather large initial dose is administered, there sometimes will occur a temporary lighting-up of the chronic process into an acute one, with a copious exudation of serum from the affected area. This, however, subsides in a day or two and is usually followed by a very rapid and gratifying improvement in the clinical symptoms. This acute exacerbation occurred in my first case and greatly alarmed the parents, who called me in to see what I had done; but within two days or so I was receiving their thanks for the "miracle" the bacterin had wrought.

The dosage should be about as for staphylococcic infections, as heretofore detailed. After a cure has apparently been attained, one should guard against a recurrence, by means of a monthly dose of bacterin, until convinced that the trouble cannot "come back."

In acute cases of eczema, I employ, as an external local application, zinc oxide ointment, which is very soothing to the raw surface. If there is much oozing of serum from the affected surface, corn-starch may well be added to the ointment. Where itching is a prominent symptom, as it usually is, phenol rarely fails to give relief; but it should rarely be used in amount exceeding 1-4 percent. Menthol, 1 percent, in zinc-oxide ointment, also acts well as a local anesthetic.

For subacute cases, balsam of Peru, 1-2 to 1 dram to the ounce of the ointment just named, is, in my opinion, the most valuable single remedy we possess. To this mixture, one may sometimes add, with benefit, salicylic acid, 10 to 20 grains to the ounce. In chronic cases, oil of Cade or liquid tar, about 10 percent, is indicated. Ammoniated mercury, 3 to 5 percent, is at times a useful, stimulating application. In fissured palmar eczema, salicylic acid, 20 to 30 grains to the ounce of zinc-oxide ointment, with balsam of Peru, 1 dram to the ounce, is very efficacious.

As to internal treatment, arsenic (Fowler's solution) is indicated in the *chronic*, *scaly*, *dry* forms of the disease; *never* in the *acute*, *weeping* eczemas. *This is an important rule*, but one which often is overlooked or disregarded.

In all cases of eczema, one should search carefully for some underlying gastrointestinal disease or disorder and correct it so far as possible. This is especially true in eczema occurring in infants. In "soreheaded" babies, fluid extract of Viola tricolor, administered internally in doses of 3 to 5 minims, three times a day, has been highly recommended by Strack, Piffard, and others.

As to dietetic and hygienic treatment, one must be careful to throw out all objectionable articles of diet, such as fat or greasy and fried foods, excessive sweets, and the like. A light, nutritious, easily digestible diet must be insisted upon, excluding condiments and coffee or other stimulants.

Water as a local application in eczema is almost always irritant and should be avoided as much as possible. To remove ointments and the like, pure olive-oil is to be used, rather than soap and water.

Keep the bowels active. A dose of calomel two or three times a week, will prove a highly useful adjunct to other forms of treatment.

(*To be continued*)

Is Syphilis Hereditary?

By E. Kilbourne Tullidge, M. D., Middletown, Connecticut

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IF WE want to discuss syphilis as a hereditary disease, accepting McFarland's definition of disease as "the inharmonious relation of the individual to his environment," it is incumbent that we first form a clear, distinct understanding of what we mean by hereditary. For, in the true biological sense, this term is much misused in medicine and surgery, being applied to many prenatal conditions that have nothing to do with it.

In biology, the term "hereditary" is used to describe conditions transferred from parent to offspring by peculiarities of the germplasm. It does not refer to accidental conditions of prenatal life by which the health or perfection of the offspring is affected. These latter conditions are termed "congenital."

Many of the present-day biologists differ as to whether acquired characteristics can be transmitted to the offspring or not. If not, then there can be no such thing as a hereditary disease or deformity. Lamarck and Darwin believed firmly in inheritance and in the transmission of acquired characteristics; Darwin making it the basis of his theory of evolution.

The Nature of Heredity

Weissmann, Francis Galton, Adami, and perhaps the majority of the present-day biologists doubt or disbelieve its possibility. It seems certain that experimental characteristics, that is, mutilations, such as result from circumcision, amputation, nucleations, scoliosectomy, and the like, are not transmitted; but it does appear certain that spontaneously acquired variations from the normal may be transmitted.

Adami has suggested that heredity may be explained upon the assumption that the idioplasm, or that part of the protoplasm possessing vital properties, is composed of a mass of molecules, which constitute a central ring, to which side rings may be attached or from which they may be detached without alterations of the central primitive ring. Environment causes the central ring to have attached certain side-chain combinations, and in this way the modifications of the tissue-cells are brought about. In the same way, environmental conditions lead to further modifications, in the form of new lateral-chain combinations. Those lateral chains that are last developed are the least stable and the most readily lost, while those which have been attached for a long period of time are not readily loosened. Thus it is that conditions produced by the lateral chains that have been active for generations tend to persist, while those recent changes of structure or alterations of environment produce, with the general idioplasm, combinations too weak to be transmitted.

The hereditary conditions thus far considered refer to immediate peculiarities, as the possession by the parent of a peculiarly situated lock of white hair, which peculiarity is transmitted to the child; or the parent may have six fingers or toes, which also appear in the offspring.

In connection with certain diseases, hereditary conditions, however, are more remote. Thus, in hemophilia, or "bleeders'-disease," we find a certain mode of transmission: the male suffering from the conditions may not transmit it to his immediate offspring, though his daughters are very likely to transmit it to their sons—thus skipping a generation.

Consanguinity constitutes a dangerous element in heredity, because of its tendency to accentuate family weaknesses; this danger being in proportion to the deviations from normal of those concerned.

Atavism is another peculiarity in which the traits of remote ancestors may make their appearance, such as flat-foot, receding forehead, progenathism, that is, protrusion of the lower jaw, and also massive projecting ears—all characteristics of the lower animals and simian race.

Many pathologists divide the subject of heredity into two divisions; namely: true heredity, or the condition just discussed; and false, or apparent, heredity, commonly mistaken for heredity proper, and to which are ascribed those modifications of the embryo by conditions occurring in prenatal life. In this way, certain infectious diseases, such as smallpox and syphilis, may be transmitted from the mother to the fetus through the placental circulation and so cause the disease that has been acquired from the parent.

Those predispositions are tendencies which occur in the offsprings of tuberculous, cancerous, and neurasthenic subjects and may depend upon transmitted physiologic peculiarities, or

they may be nothing more than the result of lack of vigor of the germ-plasm, the development of which results in a feeble individual.

Do Spermatozoa Carry Disease-Germs?

The human ova are free, or almost free, from yolk and are relatively very small. There has not been a single observation, according to Adami, showing that the mammalian ovum is phagocytic, that is, able to take up foreign particles. That the minute spermatozoa should act as carriers, is still more unlikely; and the possibility that they do so has been negatived by Gaertner.

Adami has shown that the minimum number of tubercle-bacilli that will set up peritoneal infection in the guinea-pig is eight; in the rabbit, it is twenty-four to thirty; and Gaertner, after obtaining the seminal ejaculations, found that they contained a sufficient number of the bacilli to cause the disease. Rohlff did not once succeed in rendering rabbits tuberculous by injecting them with semen of men suffering from phthisis. Gaertner concluded that the semen emitted by a phthisical patient does not, on the average, contain as many as ten bacilli.

From these experiments by Rohlff and Gaertner, Adami calculates that, on the average, human seminal ejaculations contain more than 226,000,000 spermatozoa, and that, if the semen contained, not ten, but one thousand, spirochetes, the chances that an individual spermatozoon fertilizing the ovum should bear with it a spirochete and so lead to germinal infection are as 1 is to 226,000. If 1,000,000, the ratio would be 1226—only 1 out of 85,000,000,000 spermatozoa having a chance of fertilizing an ovum. One may draw his own conclusions as to the chance of a spermatazoon conveying the disease from the father to the offspring. It is so absurdly minute as to be almost nil.

Syphilis Acquired During Fetal Existence

That cases of syphilis in the newborn are most often of late intrauterine acquirement, is made evident by Chiari, who states that in 90 percent of infants presenting signs of syphilis the liver is the seat of the greatest syphilitic disturbances. Infection through the placenta amply explains the conditions in infants; for, practically all the blood on its way to the placenta passes through the fetal liver, which thus is the organ first subjected to infection.

Adami specifically states that, whenever there are active and specific manifestations of tuberculosis, syphilis or other infective diseases of the newborn child, the condition is of intrauterine acquirement, and not inherited. This statement he supports by referring to the various stages in which one may find the disease developed in the newborn.

After an interesting series of observations of experiments on healthy dogs, Friedmann concluded that bacilli introduced into the uterus, outside of the amnion, may some days later be found in the amniotic fluid. Whether through the placenta (from maternal infection), through the wall of the fetal sac, or by passage into the developing ovum before that sac has developed, organisms may infect the embryo, these various routes are adequate to explain the phenomena, without calling upon improbable infection of the ovum or spermatozoon prior to fertilization.

Children of syphilitic or tuberculous parentage who exhibit certain stigma—such as fetal cachexia, malnutrition, senile expression, senescence, even malformations—are those that have acquired these characteristics presumably through the germ-plasm which presents modifications and disturbances peculiar to the parental germ-cell.

The Role of the Placenta

After weighing the many arguments upon the passage of foreign substances through the placenta, as advanced by Bonnett, Hofbauer, Wallgren, Polano, Schmidlechner, Liebreich, and others who have experimentally proved the transmission of iron, fat, albumoses, toxins of diphtheria and tetanus, the organisms of pneumonia, relapsing fever, various infections due to pyogenic organisms and typhoid fever (which latter of the many mentioned is most frequently transmitted, due, no doubt, to its motility) it is apparent that the functions of the placenta are not limited to mere absorption by osmosis.

The reverse condition, namely, the transmission of materials from the fetus to the mother, has been demonstrated by Savoy and Gusserow. Therefore, we may safely say that it hardly seems probable that infection of the fetus may occur without some transmission of the organisms or their toxins to the mother, and the reverse.

The reason why the manifestations are not apparent at the time of delivery is due probably to a latent stage or period in which the spirochete develops a provisional immunity, only to be followed by manifestations of the disease in later life.

Keyes states, after citing "Colles' law," that the mother of such a syphilitic child (Colles' child), although herself remaining healthy during many years, almost invariably ultimately breaks out with tertiary syphilis (*choc en retour*), and that, therefore, the mother of a syphilitic child, even though she remain apparently sound, is in fact syphilitic.

In conclusion, let us suppose that, should a father transmit the disease apparently only to the fetus, by the fertilization of an ovum through a spermatozoon conveying a spirochete—and to which spermatozoon has been given its one 85,000,000,000th of a chance, according to Adami—and should this one spirochete be sufficient in itself to produce the disease (which is highly improbable and unlikely), the infection would not be confined to the embryo, but would involve the placenta as well, and from there be transmitted to the mother. The condition would be a disease, not the result of peculiarities of the germ-plasm, but the result of an exogenous or mechanical infection, but which, we must admit, in the true biological sense is only a congenital condition.

The explanation for the erroneous use of the designation "hereditary" in connection with this disease, by the profession, is probably due to the fact that only of late has this term found its authoritative definition, as here employed.

Management of Summer Diarrheas in Infants

By Clifford E. Henry, Ph. G., M. D., Minneapolis, Minnesota

JUST one word as to the examination of an infant, when one is consulted for an alleged attack of gastrointestinal trouble. Always be sure to have the child stripped of all clothing. Often the mother will not take the child's clothing off, and, so, the doctor may overlook the presence of scarlet-fever or some other acute infectious disease that starts with vomiting and a general gastrointestinal disturbance. If the child is naked, you can at the same time make an examination of the chest, in fact, a thorough examination of the entire body.

Furthermore, the urine should be examined. This fact I learned when another physician discovered in one of my patients a severe kidney lesion that I had overlooked. I had attributed the fever to a deranged stomach. A few doses of urotropin soon corrected the trouble. By a little care, a small sample of urine can be secured from even the youngest infant. Also, the last soiled diaper should always be asked for and carefully examined.

Castor-oil—the plain oldfashioned kind—is the best remedy to start the treatment of bowel troubles in children. Because of its properties of making a clean sweep and then to some extent checking the diarrhea, it has held its own. In this day of pampered humanity, when the youth of the land rebel against anything disagreeable, it speaks volumes for our old friend Oleum ricini to see it still in use.

Why do babies and young children have bowel trouble in the summer? In about ninety percent it is owing directly to carelessness or ignorance on the part of some elder. Overfeeding, or food intoxication, feeding of injudicious foods, irregular feeding, carelessness in preparation of the proper foods are the usual sources of the starting of the trouble.

There is absolutely no question but that these summer diarrheas are of toxic origin. No one specific microorganism is the essential cause. The improper feeding seems to bring about a condition that causes the common colon-bacillus to become virulent. The streptococcus enteritidis is frequently found as the infecting agent in cholera infantum. Other bacteria frequently present are, the bacillus pyocyaneus, the proteus vulgaris, and the proteolytic bacteria; also the peptonizing bacteria.

Summer diarrheas of infants may, then, be classed in two large groups, namely: (1) those owing to improper foods, and (2) those caused by some infection. In both groups, the toxemia resulting is the great danger.

About Overfeeding of Infants

Food poisoning resulting from overfeeding with proper foods seems to be the most difficult problem for the average mother to understand. She knows she is giving the baby the proper food, yet, a diarrhea develops; baby loses in weight and becomes

very sick. There are spells of vomiting when absolutely nothing can be retained, even at times bloody mucus being brought up. The stools are very offensive. The prostration sometimes is extreme, because of the great amount of toxins that have been absorbed from the intestines. The child seems to be most comfortable when resting, perfectly quiet, on its back.

In these cases, all food should be withdrawn for at least twelve hours, in some instances at least twenty-four hours. If the child cannot take water by mouth, then water should be furnished the system per rectum, either by the Murphy slow-drop method or in the form of small retained enemas. Feeding should be resumed very cautiously.

As for medication, the sulphocarbolate of sodium clearly is indicated. If the child will retain castor-oil, that should be given early. Sometimes the 1-10- or 1-20-grain dose of calomel will do better; the minute doses of calomel seemingly having a sedative influence upon the irritable stomach.

Harm of Irregular and Injudicious Feeding

Irregular feeding has the same effect upon the infant as have irregular meals upon an adult. It will derange the stomach, and indigestion results.

Some mothers think that every time a baby cries it must be fed. Then the result is indigestion which causes attacks of constipation or diarrhea and exposes the system to bacterial invasion or because of which the bacilli present become virulent.

If the child is on the bottle, the mother often will scald the milk by pouring it over the hot edge of the vessel in which it has been warmed. This scalding of the milk is a frequent cause of obstinate constipation. Also, the change in the food of the cow often will so alter her milk as to cause gastrointestinal derangement in the infant.

The habit of giving the baby a taste of all the foods on the table may be classed as injudicious feeding. When properly prepared, peas, spinach, and such green vegetables are, indeed, to be recommended and prescribed for older infants.

As in a case of food poisoning, the treatment should start with the withdrawal of all food and a thorough cleanup of the alimentary tract. The sulphocarbolates are indicated in these cases. Copper arsenite is one of my frequently used drugs. Dissolve 1-1000 grain (granule form) for each year or fraction of a year in 24 teaspoonfuls of water and of this prescribe a teaspoonful to be given every hour. Ipecac or emetine hydrochloride in minute doses has a very beneficial action, if the vomiting is persistent and there is considerable mucus in the stools.

The Bulgarian bacillus, either in tablet or bouillon form, often is just the remedy needed to change the intestinal flora from a virulent to a friendly type, and the galactenzyme tablet has proven, in my hands, to be the most satisfactory. If the stools are very acid, the galactenzyme tablets should be combined with the sulphocarbolate of sodium. The stools soon will change to yellow, showing that the Bulgarian bacillus has overcome the virulent type of microbes present.

The Intestinal Infections

For the second group of summer diarrheas, cholera infantum may be taken as presenting the typical picture.

This affection often has its origin in a mild diarrhea of the preceding group, the bacilli in the intestine either becoming virulent or some virulent, pathogenic type being introduced.

Here, the intoxication is profound and there is great prostration. The toxins generated by the bacteria cause erosions and thus open ways to invasion of the lymph-channels and blood-vessels. In one case in my practice, in which a postmortem was made, the intestine was so full of erosions that there was not more than one-half of the tissue in normal condition, while in several places there were minute pinpoint perforations. This was absolutely not a case of typhoid fever, as proved by a Widal test, which was negative.

These cases are more frequent during July and August. The extreme heat of this period lowers the body's resistance, while the milk is more liable to decompose.

In these cases of infectious bowel diseases, there is, as a rule, considerable vomiting, consequently water should at first be given rectally. Water starvation is one of the things that must be guarded against. The inability to retain water in the stomach and the frequent watery stools greatly deplete the system.

Washing out the colon with physiologic salt-solution, then, after a few moments, injecting a small amount of thin starch-water, has a very soothing effect. The prostration must be overcome by stimulation and hot baths. Brandy in water should not, as a rule, be given (as often is done), since it is likely to irritate an already irritable stomach. Strychnine or camphorated oil is preferable.

Copper arsenite is an excellent drug. Also, the Galactenzyme Bulgarian-bacillus tablets should be given early and pushed to full dosage. Upon resuming feeding, albumen-water and barley water are much better than milk.

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

[*Continued from page 509, June issue.*]

THE active principles are in such extensive use in the United States and the literature is so elaborate that I deem it superfluous to go deeply into this interesting subject; for, I have, in the past, expatiated freely on the employment of aconitine, which is a fair beacon-light to the possibilities most of the other substances may lend, modified by their peculiar indications, very few others being so positive in their legitimate uses, though few others are endowed with possibilities of the heroic service aconitine renders.

Snatching Out of the Jaws of Death With Glonoin

Since glonoin came to my assistance, this wonderful substance has superseded all other heart sustainers in cases of perilous emergencies, for instance collapse and extreme debility under the critical influence of powerful depressants, such as aconitine and antifebrin, the action being quicker and more dependable, ample to resuscitate the moribund, and hold the body in warm and pliant suppleness till the heart stops; thus depriving death of its agonizing horrors, the end coming like a babe falling into healthful sleep. I often have such reaction from rigid cold limbs and distressing agony, having had three recoveries of patients above whom the wail over the dead had resounded but whose vital tissue had not suffered any shade of lesion. Consciousness and the faculties of speech and eating and drinking frequently return to those who die, when the support of the heart can no longer yield the dominating sway over the feebleness of failing nature, the magic substance previously having forced the heart to break up the cumulating congestion and pump blood into the stagnate branches of the arterial ramifications, thus slowly reanimating and warming the circumjacent structures.

This was a surprising revelation to me, that came about by having been called at two o'clock in the morning to see a patient whom another doctor had been attending for twenty-three days; the trouble being fever that had never yielded, and the urgent call advising me that from midnight on the patient had grown rapidly worse. When I entered the room I recognized that I was in the presence of death, the patient's limbs being cold and the death-rattle reverberating among the rafters of the house. I saw that the death-struggle would be long and frightful. My first impulse was, to leave at once; but suddenly I changed my mind and determined to find the limit of possibility of my glonoin in the last extremity, never having thought of its employment in such case.

At 2:30 a. m. I began giving double dosage of glonoin every fifteen minutes, repeated six times; then regular-limit doses every half hour. Gradually the agony abated. At 5 a. m. there was pulse; at 7 a. m. the girl was sitting up in bed, the body all warm, joking with her young friends, who had been weeping over her when I came. It was a sad suspense for me, the patient, the family and the friends thinking she was saved, when I knew that the heart must stop at any moment. Yet, I continued the half-hour doses right along till midnight.

The girl said she felt no pain; but several times during the day and the night she screamed, "Maria Santissima." When asked, why, she said, because she felt like it.

Soon after midnight she told me she was hungry and demanded to know what she might eat. I told her there was nothing ready but corn-starch gruel, and this she demanded. She was seated on the bed, grasped the spoon and swallowed three spoonfuls, then said that was enough, that she would now sleep awhile. I had my finger on her pulse: it struck a regular stroke. Her head no more than struck the pillow when the pulse stopped. The mayor of the town was at the side of the bed with me. I told him she was dead. He declared it impossible, but quickly convinced himself.

This was an extreme case, save for the three that recovered. And I have had a

number of other cases, but never one so intensely extraordinary for long-sustained vitality. Sometimes the family does not wish any interruption of the natural course of dissolution; and, again, I have been called even by one old European physician, for the express purpose of modifying the agony of death.

We do not positively know where to draw the line of demarcation between consciousness and apathy in the death-act. I have studied the problem profoundly, on the battlefield, in hospitals, and in the countless death-scenes I have witnessed in these tropical shambles of human slaughter; and I believe that consciousness lingers much longer than popular imagination gives credence. I have no positive supporting evidence that such is true, more than what those have told me who were long in states of collapse, as well as some who were prepared for burial and revived without any artificial intervention. They realized most things that passed, or imagined they had.

I do not regard any such testimony conclusive. Some time since there was expectation of a battle here in the night, under circumstances that would have ranged my house in the line of fire. I was advised to leave home for the night. But I went to bed as usual, not sleepy; and heard the firing commence as prophesied, the balls steadily pattering against my house and crashing through the planks. I thought it safer to keep still in bed.

Suddenly all was quiet. I waited a long time, hearing no shot nor sound made by troops. I arose and made a light. There was not the scratch of a ball anywhere about the house; and the garrison was quietly in quarters. I had slept unconsciously and thus awoke, after having dreamed of the firing too realistically to believe it a dream, when awake out of bed.

There must be some mystic affinity between such sleep and the act of dying. It were a pleasing certainty to know that absolute unconsciousness reigns supreme in the lugubrious ordeal of death; if not, those slow, long drawn dissolutions that drag along for a week or more must be too dreadful for imagination to hint at the sombre phantom of their terror.

I have seen a number of persons resuscitated who were taken from the water, apparently dead from drowning, who told me that all the acts of life passed before them in vivid review, just as consciousness was vanishing, probably a more realistic apparition than slowly dying in bed.

Professional Devotion

The three great mysteries, *birth, life, death*—the haunting *will-o'-the-wisp*, the *ignis fatuus*, of the medical mind—justify the drawing of some of their sable hues into the dark background of medical disquisition. What a pity that all that pertains to us—to our very lives—must be submerged in sombre shadows of suspense, distress, and mourning!

Sometimes the glorious tropical morning bursts around me, with its thousand brilliant flowers dancing in the young sunbeams, bespangled with limpid dewdrops glistening like diamonds, and the merry birds of every hue on the joyous wing, and then I exclaim, "O God! that nothing grievous may come here today!" And you, sordid brothers, who, perchance, may be drinking a health to the pestilence with the undertaker, you may not believe that I pine and yearn with longing fondness for a month, a week, a mere day without the shadow of suffering or wo falling athwart the threshold of my door.

I never make a visit nor receive visitors apart from the formality of professional relations. Invitations to feasts or dinners never come to me. I never eat out of my own house, save when I am watching a desperate patient in the crisis, away from home. I live alone in my big house, without even a servant, during the past fifteen months. My thoughts, my purposes, my energies all center in my profession. I do not believe that there lives or ever has lived another medical man as completely estranged from his kind, in family and social relations, as I have been for half a century.

My Friends and What They Mean To Me

However, I do possess, in my great self-abnegating professional martyrdom, maybe, that which brighter lights, men of higher clinical attainments and social felicity than I dare boast of, can neither claim nor acquire: I enjoy the volunteer friendship of some of the brightest scientific and medical minds in the United States and Europe, who write me letters—such letters!—that reconcile me to my solitary lot in unwearied constancy and lighten labors that else might be irksome. And why my renegade vagaries in the columns of medical journals should have attracted the attention of such lofty minds, have caused them to pause in their giddy soaring of research amid the immaculate purity of limpid ether, in order to greet me

in my humble home with cheering words of encomium, telling me not to turn back nor falter, now that the cream of my life is exhausted, is something I scarce can understand.

And, then the knowledge that those poor mothers whose little ones I have attended so many years, with no expectation of a farthing in compensation, with the same solicitous care as I did those of the rich, who pay liberally, are ever, in their daily prayers, supplicating health and long life for me, affords some compensation for what may seem personal sacrifices. For, although as my friends are well aware—I do not have great confidence in the efficacy of prayers, the unmistakable gratitude of these mothers is something to be deeply appreciated; while the fact that I never deny their appeals to give to their stricken loved ones the best there is in me, may, in the end, gain me some slight measure of consideration with the Guardian Power of the universe.

And that last phrase strikes a vibrating chord in my soul. I scout and deny, of course, the superstitious beliefs entertained by the natives of this still backward land, who are positive that the elements are peopled with spirits that are flitting and roaming about in the night, some of these, at times, even deigning to converse with flesh and blood. For all that, I sometimes have had a feeling that the protecting shadow of a guardian-angel's wing was hovering over my lonely head in some great crisis of trial and danger that called for almost superhuman endurance. And in those moments my thoughts involuntarily have reverted to my twin sister, to Carrie, and to Corinne.

More About Glonoin, the Great Vitalizer

These are little grains of vitalizing sand in the wide waste of desolating woe—drops of holy water on the surface of the dreary gulf of sorrow and despair. Something too much of pain and distress is ever inseparable from medical destiny in vast fields of untamed nature and less than half-civilized people—such as are these peons and Indians.

Glonoin, as a therapeutic agent, constitutes for us the great vitalizing recourse in shock of major operations or shots or other violence, whenever prompt and energetic action is demanded; nothing else known to the profession being as quickly and powerfully effective. Down here, so frequently all depends on fleeting moments that slow-acting medicaments are inadequate; and, of course, the same urgency not seldom supervenes in the most up to date operating [illegible] anywhere in the world. I do not [illegible] to operative shock, for, shock producing [illegible] tions in my field are too rare to be taken [illegible] account. But, purely physical cri[illegible] the weird phantom of the clinician. He arrives, to find an emergency with which he must cope successfully within a few minutes or else compose the limbs of the victim for the long and dreamless sleep. There is not time for scientific diagnosis or urinary tests. The angel of death is throttling the patient. A congestion must be broken in a trice, else there will be nothing further for the doctor to do. A fever must be reduced, otherwise the heart will stop under the stress of excessive temperature.

These are inexorable truths that cost new men many aches of head and heart and the humiliation of seeing crape on the doors of their patrons, but which the timely and judicious administration of glonoin might have averted. With these enfeebled denizens of the torrid zone, I naturally have more serious necessity for such forceful stimulation than would be required among the same number of patients in a more salubrious climate and among stronger people.

Many a time the patient would be dead ere a scientifically ethical diagnosis could be made. Then, the only alternative is, to attack the predominating peril—fever, heart wavering, dysentery, one or the other (sometimes a pair), and this consists in the active hostility contesting the situation. The menacing stronghold reduced, the combating of minor complications very rarely is a difficult accomplishment.

The foregoing sums the good and sufficient reason why education for practice among normal people in an average climate must be unschooled and the lessons that qualify one for this peculiarly trying practice be acquired; and the practice itself is the only school that teaches the needful lessons.

The Marvelous Emetine

Emetine is the relentless antagonist and eradicator of diarrhea and dysentery in this hot and unsparing climate. What ethical therapy terms amebic dysentery I have long, down here, classed as putrid dysentery, because of its purulent, gangrenous development and deadly tenacity. This malady assumes the aspect of a malignant epidemic march of death almost as unsparing, in some seasons, as Asiatic cholera itself, and many times is little less painful. Moreover, until recent times, it was almost as obscure in

nature as yellow-fever, while we were as much in the dark as to any reliable and specific medication.

Some years ago, I read a very interesting paper, by Dr. Robert C. Kenner, editor of *The Therapeutic Record*, about the treatment of dysentery, in which he mentioned various likely drugs the names of which I do not now recall; but, he wound up by advising to try ipecac should the others fail. This suggestion was not new to me, however. I could not employ this drug here, because of the idiosyncratic tendency of these people to vomit under the slightest provocation—one reason, by the way, why standard galenic preparations of ipecac attain little success. But, while thus perusing that article, I remembered having read, in a French journal only a few days before that the active principle of ipecac does not exhibit the intense emetic property of the crude drug, and that a full dose of the former might be ingested without producing vomiting, if taken dry by the patient while in a reclining position and remaining thus for an hour, without taking any liquid.

Then and there I got the key to the secret of curing putrid dysentery! And I began to practice this method at once. I gave 1 grain of the alkaloid* equivalent to 15 grains of the crude ipecac—as an adult dose; and this, while moderately purgative in most cases, proved so positively curative that in many instances the one dose cured the patient, without any other treatment. That is to say, I would administer the dose of emetine and instruct the patient to come or send to the office the next day for more, then heard no more of them, but later was informed that they had been well the next day.

I was actively engaged in this practice of emetine-therapy for dysentery for some years ere Rogers announced the discovery that flew on the wings of the wind all over the earth, never supposing it anything novel to the profession; for, all the world knew the value of ipecac in that disease, that its employment was interdicted by its emetic property, but also that emetine (the impure principle then known) was relatively devoid of this emetic property of the parent root. Consequently, I naturally supposed that this active principle was being used by the profession at large in the same way that I was employing it, save, perhaps, by those refractory ones who would prefer seeing their patients die rather than save them through the medium of the active principles. The truth is that outside of my own field I really gave the question no more than a passing thought. I did make some passing reference to this matter a few times in medical journals or other print, but no more specially than I might have mentioned any substances in daily use everywhere, as quite naturally I should have thought of emetine as an antidysenteric, had I given the subject serious consideration.

*This was the impure mixture of Emetine and cephaeline, as originally produced, but now differentiated Ed.

The Use of Emetine in Children

I have, more recently, abandoned the employment of emetine hypodermically in the treatment of children, giving to year-olds as low as 1-12 grain of emetoid in a little syrup or other sweet; and I am getting as good results as I got from the needle-way, while being much less troublesome and not so objectionable to mothers. There hardly ever occur any symptoms of nausea.

Sometimes, in rebellious chronic cases, I give as many as three doses in as many days. At the same time, I employ sulphocarbolate of zinc as a disinfectant, both by mouth and per rectum. I also order plenty of good strong lemonade to drink, and some lemon-juice in the clysters.

The undertaker now gets no jobs among my diarrhea- and dysentery-patients, and these diseases give me little concern, as they terminate in short order, whether in early or late treatment; however, the people do not now let them run long.

Calcium Sulphide in Zymotic Diseases

Calcium sulphide is another sterling substance, useful in many diseases, provided it is of standard quality. It should be stated here that the commercial article is worthless clinically.

The greatest service calcium sulphide has rendered me was in epidemics of black German measles and of smallpox, when it actually aborted the attacks at the very inception and proved in a high degree prophylactic for persons who had been exposed. While I was attending the people on the Santuario Rubber Plantation, and Dr. F. N. Maldenado, a friendly native practitioner, did so on neighboring plantations, we two together treated over 400 cases of German measles, without there being a single death, while "scientific" doctors, on other plantations in the same epidemic, who did not employ the calcium-sulphide medication, lost 10 percent of their measles-patients.

(*To be continued*)

What Others are Doing

COAGULEN IN STOMATOLOGY

Rifa, of Innsbruck, reports (*Deut. Monatsschr. f. Zahnhlk.*, 1915), having employed coagulen Kocher-Fonio in persistent bleeding following extraction of a tooth, a 10 percent solution being injected into the socket. He also places pledgets of cotton wet with the solution into the hollow, as a prophylactic measure.

SYNTHETIC CAMPHOR EQUAL TO THE NATURAL

During a period of more than two months, M. Levy and W. Wolff, at the Royal Charité at Muenchen, prescribed artificial camphor in the same way as the natural product (*Ther. d. Gegenw.*, 1915), and they found the action absolutely identical, even in dosage of as much as 3 Grams a day continued for three weeks. This work is one of the very few recorded of the actual clinical employment of this synthetic substance—something greatly to be desired.

AS TO THE PENETRATION OF SILVER NITRATE

Quite in opposition to the current view, two investigators—F. Schumacher and P. C. Unna—now maintain (*Derm. Woch.*, 1915, p. 13 and p. 20; cf. *Ther. Monatsh.*, 1915, p. 270) that solutions of silver nitrate penetrate no less deeply into living tissue than do those of the now fashionable organic silver-salts; and both authors explain their direct observations upon physical-chemical grounds.

It is not a fact, as at present taught, that merely a superficial layer of silver albuminate is produced upon the tissue, but, the invariable presence of sodium chloride in the serum gives rise also to the double salts of silver albuminate and sodium chloride, a compound readily soluble in the bodily fluids.

Consequently, the silver-ion of the nitrate penetrates, in the local treatment of gonorrhea, just as much into depth as do the organic preparations. Moreover, in the formation of some of these double salts, nitric acid is liberated, and this plays no small part in the resulting action.

MECHANISM OF THE ACTION OF MUSCARINE

By means of newly devised experiments—on the basis of the electrical behavior of muscles in the presence or absence of the calcium-ion in the circulation—G. R. Mines, of Vambridge (*Jour. Pharm. and Exp. Ther.*, 1915), has added further, and conclusive, proof for the contention that muscarine does not exert its toxic action upon the termini of the vagus-nerve, but, rather, direct upon the musculature of the heart itself. This he did by excluding the calcium element from the nutritive fluid circulated through the system.

THE VIRUS OF SYPHILIS

After the discovery of salvarsan, a few years ago, the efficiency of this arsenical preparation, for the treatment of syphilis, was believed to rest in the fact that within twenty-four hours after the first injection of the remedy no spirochetæ pallidæ could be found in the syphilitic lesions. Despite this fact, though, it soon was discovered that it was necessary to repeat the injections of salvarsan several times and to prescribe mercury afterward, if the disease was to be eradicated.

This paradox led to doubts as to whether the spirochetes were the actual cause of syphilis, and J. E. R. McDonagh, of the London Lock Hospital (*Lancet*, 1916, I, p. 981), concluded that, instead of being the absolute cause of syphilis, this organism possibly might be only a phase of the life-cycle of a protozoon. His investigations, the results of which he briefly described in his Hunterian lecture delivered before the Royal College of Surgeons of England, led him to conclude that the organism of syphilis, which he calls the Leukocytozoon syphilidis, evidently is a coccidial protozoon.

The life-cycle of this protozoon begins with a spore or sporozoite, which invades connective tissue or endothelial cells. In these cells, the sporozoite increases in size and, by a process of budding, gives rise to several bodies that become differentiated into male and female elements. These escape from the cells.

In other cases, the sporozoite may increase in size and divide into two and again into four. These four masses, by a process of further subdivision, develop into a sporecyst, which then gives rise to spores.

The spirochetes develop out of the male elements, which consist of three nuclear bodies; the latter increasing in size, within large mononuclear leukocytes, and developing into coils, from each of which several spirochetes may arise; these break loose and can then be recognized as true spirochetæ pallidæ.

If the author is correct in his conclusions, an explanation will be afforded for the frequent instances in which the destruction of the spirochetes within the syphilitic lesions is not sufficient to establish a cure. Undoubtedly much more research will be necessary before all problems of this widely prevalent disease are solved.

IS EMETINE A TOXIC DRUG?

In the April 22 number of *The Journal of the American Medical Association*, the editor utters a "note of warning" regarding the possible toxic effects of emetine; the writer finding his text in an article recently published, in *The Archives of Internal Medicine*, by Levy and Rowntree—both of Johns Hopkins University—who were led to make an investigation as to the supposed poisonous nature of various samples of emetine, because of the death of a patient treated in the medical clinic of the institution named for a coexistent syphilis and amebic dysentery, and who had been receiving the drug. For twenty days, he had received, daily, subcutaneous injections of 1 1-2 grains of emetine hydrochloride, or, 29 grains, all told. The development of bronchopneumonia and renal insufficiency resulted in his death thirty days after his receiving the first injection and ten days after the last one of these doses. Subsequently symptoms of poisoning occurred in a person under emetine-therapy for alveolar pyorrhea, but this patient, fortunately, recovered.

Following these two experiences, a careful examination of samples of emetinehydrochloride supplied by five leading pharmaceutical manufacturers was undertaken. The alkaloid was administered to animals, hypodermically, in increasing doses until toxic symptoms made their appearance, and the striking and surprising fact was elicited that, while the emetine supplied by four of these houses was found satisfactory, that of the fifth proved to be markedly toxic. The name of the manufacturer of the latter sample is not divulged.

The author of the article in question does not venture to assign any reason for this toxic character of that particular article. Whether the specimen supplied was, so far as ascertained, the pure alkaloid, whether it was contaminated with cephaeline, or whether the deleterious effects resulted from the formation of decomposition-products, we still have to learn. The fact of importance to physicians, however, is, that there is on the market a brand of emetine possessing dangerous and hitherto unsuspected properties, and which it is important for them to endeavor to avoid.

There is one point in connection with this report upon which the author fails to lay sufficient emphasis, namely, the fact of the prolonged period during which the emetine was given in the fatal case. Vedder, Lyons, Ross, and others, all of whom prescribe emetine extensively, now generally advise against its prolonged continuous administration. As a rule, we are told that the alkaloid should be injected daily for not more than two weeks at most, and that within this or any shorter period the *total amount administered should not exceed 15 grains.* It will be observed that the Johns Hopkins patient who died received practically double this quantity. Really, one would think that the physicians in charge would have been on the lookout for untoward symptoms, the more so, since we are informed that "from the sixteenth day, signs of grave kidney mischief developed." Even Johns Hopkins, it seems, is not above error.

This, we believe, is the first fatality reported as resulting from emetine, although, as our readers are aware, it has been administered in thousands upon thousands of cases, under all sorts of conditions, by all sorts of men, and in all sorts of places and climates. Comparatively speaking, the alkaloid is a safe one, but, of course, the same as any other potent remedy, it must be prescribed with discretion and intelligence. Furthermore—and important—this experience points out the duty placed upon the

physician or drawing his supplies from a thoroughly reliable and tested source.

THE TREATMENT OF PNEUMONIA WITH MASSIVE DOSES OF QUININE

Dr. Solomon Solis-Cohen of Philadelphia is known to be a warm advocate of the use of quinine and urea hydrochloride, which he gives in massive doses in the treatment of pneumonia, with results which are certainly very satisfactory. His method is described with great care in *The New York Medical Journal*, June 3 and 10, 1916. Doctor Solis-Cohen objects to his therapy for this disease being called the "quinine treatment," since he uses other remedies to meet indications. Quinine, however, is the drug upon which he places most reliance, and he uses it because it is believed by him to be a chemical antidote or an "antitoxin" to the pneumonia poison. It is because the drug neutralizes the poison of the disease (or itself is neutralized by that poison) that it is possible, in his opinion, to give the enormous doses which he administers without the production of any toxic effect.

Doctor Solis-Cohen is a firm believer in "dose enough," and this rule requires, in his experience, in any given case of pneumonia anywhere between 10 grains and 250 grains, spread out over several days. In some cases a single dose is sufficient to insure recovery, but as a rule a number of doses are required, and these are administered at from three- to six-hour intervals. The first dose administered consists of 1 to 1 1-2 Grams (15 to 22 1-2 grains) of quinine and urea hydrochloride, given in 25 to 50 percent solution in hot water, which is injected deeply. This is usually followed by prompt decline in temperature with slowing of pulse and respiration. These injections are repeated in smaller doses (1-2 to 1 Gram) every third hour until the temperature falls to 102.2° F. In all, the number of injections throughout the whole case varies from one to ten, with an average, probably, of four or five, spread over from 24 to 48 hours. Patients are not disturbed for these injections when they are asleep. The general condition of the patient is also considered, and the quinine injections may be omitted if thought desirable, even when the temperature remains in the neighborhood of 103° F.

As already stated, the administration of the quinine and urea hydrochloride does not constitute in itself the complete, logical treatment of a case of pneumonia. There are other remedies which Solis Cohen believes of almost equal importance. He particularly mentions remedies designed to support the blood pressure, these being indicated because of the tendency toward falling blood pressure in pneumonia, especially under the influence of the quinine, which causes temporary pulse depression. Accordingly, he has adopted two rules regarding the use of pressor drugs in pneumonia:

1. Inject the pressor agent with the initial dose of quinine and urea hydrochloride.

2. Repeat the injection every third hour, whenever the systolic pressure curve falls five points below the numeral of the pulse curve.

The pressor agents recommended by Solis-Cohen are cocaine hydrochloride, pituitary, adrenalin, and camphor. He frequently gives these remedies in rotation, changing the frequency of administration according to the urgency of symptoms.

Another class of remedies which Solis-Cohen uses and recommends highly and which are believed to be of an antitoxic character, are digitalis and veratrum viride. Quite apart from the action of these two drugs on the heart, he believes that each of them possesses distinctly antitoxic properties, and that, therefore, their use is justified in large doses, and this is especially true of digitalis. The physician may select his own preparation according to preference, and digitalin and veratrine are referred to as among the possibilities.

This does not cover the complete treatment of the disease. Other factors must be considered, such as elimination, the use of bacterins, correction of alimentary disturbances, the toilet of the upper respiratory tract, and the use of iodine and of the chlorides, which are believed to have peculiar values in the treatment of pneumonia.

This article must be read in its entirety to appreciate its full value, and we trust that it may be reproduced in permanent form. While the method of treatment advocated by Doctor Solis-Cohen is not entirely in accord with our own, and while he has less faith than we in the value of the decongestant alkaloids, the whole paper is rich with promise and will be found exceedingly useful to anyone who may read it.

INFLUENCE OF BOLDUS UPON PANCREATIC SECRETION

C. Fedeli, of the Pathologic Institute at Pisa, has been investigating the physiologic

properties of boldo and has found as follows (*Arch. d. Farm. Sper.*: cf. *Ther. Monatsh.*, 1915, p. 410), the experimental animal being a dog with an artificial pancreas-fistula:

The administration of fluid extract of boldo as a rule caused a generous flow of pancreatic secretion. While this action might be attributable to an increased secretion of gastric hydrochloric acid, by the same dose, the author inclines to assume also a direct pancreatic stimulation, analogous to the simultaneous cholagog action of the same drug.

Here is a hint for the use of boldine. It should be of decided value in intestinal indigestion,

ON THE ACTION OF HYDROGEN DIOXIDE IN ANAEROBIC WOUND INFECTION

Hydrogen dioxide is being employed to some extent for the disinfection of gasphlegmons and wounds infected with the tetanus-bacillus, and this determined K. Spiro to study the action of this agent upon anaerobic microbes in general. The result of his experiments as well as of speculation is the conclusion (*Muench. Med. Woch.*, 1915, p. 197) that any beneficial influence derived can not depend upon the direct destruction of the pathogenic germs, inasmuch as the concentration of irrigation-fluid necessarily is altogether too low to do so. Neither can the action be a purely chemical one upon any catalase involved, for such is absent in the case of anaerobes.

As a matter of fact, hydrogen-dioxide solution applied to wounds thus infected acts in a purely physical, mechanical way, in that the frothing produced causes the decomposed tissue debris and adhering bacteria to be ejected from the hidden depths and thus to be brought into contact with the atmospheric oxygen bathing the surface, or with any of the disinfectant agents possibly applied in dressing the wound.

IMPROVEMENT IN THE GRUBER-WIDAL TEST

When the pressure, from the military, of making diagnostic test for typhoid-fever, paratyphoid-fever, and dysentery grew enormously in Doctor Levy's bacteriologic institute for lower Alsace, the work of executing the Widal test often extended late into the evenings; and this evening work began to prove, not only time-robbing, but very tiresome to the eyes, with respect to the reading of the result. Consequently, the laboratist, Anna Perlmann, cast about for some improvement in the method, and conceived the idea that the addition of some coloring might aid. So, she experimented with eosin, fluorescin, aniline-blue, and methyl-orange, adding of a solution of one of these dyes (enough to impart a distinct color) before she got ready to read off the result on the impregnated tubules, either after centrifuging or, when using the incubator, soon after removal from the latter.

The author eventually decided in favor of methyl-orange-solution, of the strength of 1-2 percent in alcohol—the same as employed in Toepfer's reagent for gastric acidity. Of this, 2 or 3 small drops from a capillary pipette with rubber bulb suffice for the purpose.

This method the author has thereafter employed in hundreds of operations, with unvarying satisfaction. While the eyes soon tire after glancing at the opalescent ("weisse milchige") contents of the tubules, this is not so in the case of those that have been colored orange, while the distinction between position and negative is more precise.

OINTMENT FOR BARBERS' ITCH

According to A. Salinger (*Muench. Med. Woch.*, 1915, p. 619), the following unguent has given better satisfaction than tincture of iodine for eradicating barbers' itch (herpes tonsurans), especially when of the deeply penetrative form:

Salicylic acid	Gm. 8
Betanaphthol	Gm. 5
Resorcin	Gm. 4
Lanolin, to make	Gm. 100

EXOPHTHALMIC GOITER: QUININE AND UREA INJECTION TREATMENT

One of the many interesting things observed at the last meeting of the American Medical Association in Detroit was a series of photographs displayed by Dr. Leigh F. Watson, in the scientific exhibit, showing "before and after" pictures of a number of persons who have been treated for hyperthyroidism (commonly known as exophthalmic goiter) with injections of a quinine and urea hydrochloride solution. The results obtained were certainly marvelous, and the photographic evidence shown by Doctor Watson was most convincing as to that fact.

The readers of CLINICAL MEDICINE are, of

course, familiar with the Forchheimer treatment of exophthalmic goiter, with 5-grain doses of quinine hydrobromide taken internally three or four times daily. That this treatment is effective we know; but just how it acts and why it is effective, we are not prepared to state.

Doctor Watson, on the other hand, has a very plausible hypothesis. He injects the quinine and urea hydrochloride in 30 to 50 percent solution directly into the thyroid gland. By these injections he destroys the overfunctioning thyroid-gland tissue.

It is not claimed that the size of the gland will necessarily be greatly reduced by these injections, although as a matter of fact, the inflammatory reaction following is often sufficient to cause virtual disappearance of the tumor. In the photographs shown at Detroit, the writer noted that in most instances the gland was very much diminished in size—so much so as to be hardly noticeable.

Doctor Watson has been employing this treatment for two years and has had experience with a very considerable number of cases. In a paper published in *The Journal of the American Medical Association,* September 25, 1915, he reported experience with 50 cases, but, if I remember the Doctor's statement correctly, in Detroit he stated that he now had in the neighborhood of 100 to his credit.

The method of treatment is of greatest value in comparatively early cases, and it is not advised in the advanced toxic ones when the vascular and nervous systems have been permanently damaged.

The following points, according to Watson, must be kept in mind: "Much depends on a proper selection of cases; the necessity of preventing pain from any injection, by the use of local anesthesia, is of vital importance; if acute attacks of hyperthyroidism are to be prevented, the use of preliminary injections into the most prominent portion of the goiter, of a few minims of sterile salt solution given at one- to three-day intervals, followed by injections of sterile water, will be found indispensable; the result of the quinine and urea injection depends on the amount of tissue destroyed."

When properly given, the quinine and urea injection is almost painless. There is no post-injection discomfort, and the improvement is really very remarkable. The exophthalmos becomes less marked and finally disappears; the pulse becomes slower, and the nervousness and other characteristic symptoms gradually disappear. In short, clinically these patients are completely cured.

Doctor Watson believes that [illegible] should be treated in hospitals, by [illegible] in this work, and yet he says that he has given over 200 injections in his 50 cases with no unpleasant effects. It seems quite possible for any skilful physician to use this method of treatment, provided he uses ordinary care.

Doctor Watson emphasizes the necessity of minimizing pain by the use of local anesthesia. In order to prevent an acute attack of hyperthyroidism (meaning by that accentuation of the cardiac and nervous symptoms) which might otherwise follow the slight pain of the first quinine and urea infiltration in very toxic cases, the doctor begins treatment by injecting a few minims of sterile salt solution in the most prominent portion of the goiter, repeating this injection three to four times at one- to three-day intervals. By this time the nervous reaction is so diminished that the quinine and urea can be infiltrated with very slight discomfort and no increase in symptoms. In making repeated injections, the same point is used; that is, the quinine and urea is injected in the same place in which the sterile salt water was introduced.

In administering the quinine and urea injections, the physician should aim to introduce the solution into different portions of the gland at succeeding injections, the purpose being to destroy the greatest amount of thyroid tissue with the smallest number of injections. Watson now uses from 1 to 4 Cc. of a 30- to 50-percent solution of the quinine and urea hydrochloride at each treatment. These injections are repeated, as a rule, every third day, the intervals depending, however, on the progress of the patient. Eight to fifteen such injections are usually sufficient.

The syringe employed is an all-glass syringe of 1- to 2-Cc. capacity, with a fine platinum needle. The site of injection is first anesthetized with cocaine or novocaine, which is infiltrated into the skin, the subcutaneous tissues, and muscles, down to the gland. The syringe is now detached and the needle is thrust carefully into the body of the gland. After ascertaining that there is no fluid in the thyroid, and that no blood or air comes through, the needle is attached and the infiltration made slowly. Care must be taken, of course, to avoid the great vessels of the trachea; also, in cystic goiter, the fluid may be aspirated before the injections are made.

Best results are obtained by keeping the patient in bed for several weeks, while giving the injections.

SUBSTITUTES FOR OLIVE-OIL FOR ENEMAS

While presenting nothing especially new, still, the following little item may not be amiss, as it may prove suggestive under certain unusual circumstances. The idea was inspired by the well-known present scarcity of every kind of fat in the Central empires, and is merely that a Dr. H. Strauss reminds others (*Deut. Med. Woch.*, 1915) that in place of the customary olive-oil for rectal injection one may quite as well utilize oil of sesame, of poppy-seed, of cotton-seed, and of rape-seed, or also liquid paraffin. He further suggests that ordinarily 50 or 100 Cc. of oil will answer, instead of the usual 200 Cc.

FILTERING-PAPER AS A SUBSTITUTE FOR ABSORBENT COTTON

Speaking of makeshifts, for reason of economy or necessity, the following may be recorded: It has been found by Doctor Verth (*Muench. Med. Woch.*, 1915) that filtering-paper, as also the grayish Chinese paper, may take the place of absorbent cotton as a bibulous dressing for wounds; the paper to be crushed and wrapped in a layer of gauze. Such a wad does not serve well, though, for daubing a wound.

INTRAVENOUS ADMINISTRATION OF SODIUM IODIDE

Sodium iodide, in 10-percent solution, may be administered intravenously in excessive dosage with impunity, according to F. Klemperer, of Berlin (*Ther. d. Gegenw.* 1915), who has injected doses of 5, 10, 20, and (experimentally) even of as high as 50 Grams (from 90 grains up to 13 drams) two or three times a week, or even, in some urgent cases, three 20-Gram doses three times daily for a limited period. In not a single instance did the author observe any serious disturbances or side-effects; in fact, some patients seemed to bear the remedy better intravenously than when taken by stomach.

Doctor Klemperer has been employing this method more especially in internal lues, particularly where the aorta was affected, combining it (Gm. 5 to 10 per day) from the first, though, with a mercurial or salvarsan. In such a course, he instills the sodium-iodide solution, then introduces a few cubic-centimeters of physiologic salt-solution, and then follows with the salvarsan; all three in immediate succession.

The relative harmlessness of this therapy, it is thought, may be accounted for by the fact that the iodine-ion will, of course, be eliminated renally more rapidly; on the other hand, it has been pointed out, that under those circumstances the full therapeutic value of the iodine cannot well be developed. Still, as to this latter point, the exclusion of the digestive apparatus, as also the massive attack, may constitute desirable features.

THE ALLEN DIETIC TREATMENT OF DIABETES

So much attention is being given in the medical journals to the Allen "starvation" treatment of diabetes, so called, that we reproduce herewith, from the March 23 number of *The Boston Medical and Surgical Journal*, the diabetic diet now employed, as presented by Joslin, Brigham, and Hornor, together with their analysis of the Allen method of treatment. We quote the summary of treatment, and the tabular exhibit of a "strict dietary," as follows:

Fasting. Fast until sugar-free. Drink water freely and tea, coffee and clear meat broth as desired. In very severe, long standing and complicated cases, without otherwise changing habits or diet, omit fat, after two days omit protein and halve carbohydrate daily to 10 Grams, then fast.

Carbohydrate Tolerance. When the 24-hour urine is sugar-free, add 150 Grams of 5 percent vegetables and continue to add 5 Grams carbohydrates daily up to 20, and then 5 Grams every other day, passing successively upward through the 5, 10, and 15 percent vegetables, 5 and 10 percent fruits, potato and oatmeal to bread, unless sugar appears or the tolerance reaches 3 Grams carbohydrate per kilogram body-weight.

Protein Tolerance. When the urine has been sugar-free for two days, add 20 Grams protein (3 eggs) and thereafter 15 Grams protein daily in the form of meat until the patient is receiving 1 Gram protein per kilogram body-weight, or if the carbohydrate tolerance is zero, only ¼ Gram per kilogram body-weight.

Fat Tolerance. While testing the protein tolerance, a small quantity of fat is included in the eggs and meat given. Add no more fat until the protein reaches 1 Gram per

kilogram (unless the protein tolerance is below this figure) but then add 25 Grams daily until the patient ceases to lose weight or receives not over 10 calories per kilogram body-weight.

Reappearance of Sugar. The return of sugar demands fasting for 24 hours or until sugar-free. The diet is then increased twice as rapidly as before, but the carbohydrate should not exceed half the former tolerance until the urine has been sugar-free for two weeks, and it should not then be increased more than 5 Grams per week.

Weekly Fast Days. Whenever the tolerance is less than 20 Grams carbohydrate fasting should be practiced one day in seven, when the tolerance is between 20 and 50 Grams carbohydrate, upon the weekly fast day 5 percent vegetables and one half the usual quantity of protein and fat are allowed, when the tolerance is between 50 and 100 Grams carbohydrate, the 10 and 15 percent vegetables are added as well. If the tolerance is more than 100 Grams carbohydrate, upon weekly fast days the carbohydrate should be halved.

STRICT DIET

MEATS, FISH, BROTHS, GELATIN, EGGS, BUTTER, OLIVE OIL, COFFEE, TEA, AND CRACKED COCOA

FOODS ARRANGED APPROXIMATELY ACCORDING TO PERCENTAGE OF CARBOHYDRATES

	5 percent*		10 percent	15 percent	20 percent
VEGETABLES (fresh or canned)	Lettuce Cucumbers Spinach Asparagus Rhubarb Endive Marrow Sorrel Sauerkraut Beet greens Dandelion greens Swiss chard Celery Tomatoes	Brussels sprouts Water cress Sea kale Okra Cauliflower Egg plant Cabbage Radishes Leeks String beans Broccali	Pumpkin Turnip Kohl-rabi Squash Beets Carrots Onions Mushroom	Green peas Artichokes Parsnips Canned Lima beans	Potatoes Shell beans Baked beans Green corn Boiled rice Boiled macaron
FRUITS	Ripe olives (20-percent fat) Grape fruit		Lemons Oranges Cranberries Strawberries Blackberries Gooseberries Peaches Pineapple Watermelon	Apples Pears Apricots Blueberries Cherries Currants Raspberries Huckleberries	Plums Bananas Prunes
NUTS	Butternuts Pignolias		Brazil nuts Black walnuts Hickory Pecans Filberts	Almonds Walnuts (English) Beechnuts Pistachios Pine nuts	Peanuts 40 percent Chestnuts
MISCELLANEOUS	Unsweetened and unspiced pickle, clams, oysters, scallops, liver, fish roe		*Reckon available carbohydrates in vegetables of 5-percent group as 3 percent, of 10-percent group as 6 percent.		

(30 Grams 1 ounce) CONTAIN APPROXIMATELY	PROTEIN G.	FAT G.	CARBOHYDRATE G.	CALORIES
Oatmeal, dry weight	5	2	20	120
Meat (uncooked, lean)	6	3	0	50
Meat (cooked, lean)	8	5	0	75
Broth	0.7	0	0	3
Potato	1	0	6	25
Bacon	5	15	0	155
Cream, 40 percent	1	12	1	120
Cream, 20 percent	1	6	1	60
Milk	1	1	1.5	20
Bread	3	0	18	90
Butter	0	25	0	225
Egg (one)	6	6	0	75
Brazil nuts	5	20	2	210
Orange or grape fruit (one)	0	0	10	40
Vegetables, 5- and 10-percent group	0.5	0	1 or 2	6 or 10
Oysters, six	6	1	4	50

1 Gram protein	4 calories	1 kilogram	2.2 pounds
1 Gram carbohydrate	4 calories	30 Grams (G.) or cubic centimeters (Cc.)	1 ounce
1 Gram fat	9 calories	A patient "at rest" requires 25 per kilog. body weight	
1 Gram alcohol	7 calories		
6.25 G. protein contain 1 G. nitrogen.			

Miscellaneous Articles

The Narcotic-Drug Habit: Its Ambulatory Treatment

IN THE treatment of cases of drug-addiction' one of the principal factors to overcome is the lack of self-confidence. Many a patient will hesitate to submit to the treatment for the cure of this habit on this very account. Another thing which will cause the addicts to lose courage is the sanatorium-treatment, they generally being under the impression that they will have to endure untold suffering before being freed from this drug-habit. The time and the expense is also an important factor which is to be considered.

Doctor E. S. Bishop, in the *American Journal of Surgery* for December, 1915, says in part:

"The successful cure of a case of narcotic addiction is in itself a problem sufficiently important to deserve the undivided attention of the physician who is treating it. The reduction of a drug of addiction below the amount of the body's needs robs the addict of his most valuable asset in securing and maintaining recuperative powers. Therefore, the relief and cure of narcotic-drug-addiction is not a matter to be lightly undertaken. The physician or surgeon who has in his care a narcotic-drug-addict whom he is treating for another disease-condition should remember that the patient's recovery from the condition or disease for which he is being treated depends to a great extent upon the amount of functional balance and organic and metabolic adequacy which exists in that patient; and he should realize that functional balance and organic and metabolic adequacy in a narcotic addict are largely under the control of, and vary with, the extent to which that patient is kept in an adequate drug balance.

"The establishing and maintaining of an adequate drug balance, therefore, is one of the most important elements to be considered in the management of a case of narcotic addiction undergoing operation or treatment for a condition other than the cure of the addiction. Success depends, therefore, more upon the nervous, functional, organic, and metabolic adequacy and the proper balance of the patient at the time of the withdrawal of the drug, than it does upon the special methods used for the accomplishment of the withdrawal or the amount of the drug which is daily needed to supply the body's demand. It is practically as hard to withdraw a narcotic drug from an addict whose requirement is 1-2 grain a day as it is from one whose need is 5 or 20 grains a day. One patient can be cured of his addiction in a shorter time, while another will require much longer."

In the treatment of these cases, the ambulatory method as here outlined has appealed to many an addict, who would have hesitated to undergo sanatorium treatment.

In order to make this method of treatment a success, it is necessary to obtain the full confidence of your patient and also to impress upon the addict that there will be no suffering, either mentally or physically, with the assurance that there will be a perfect cure, without the necessity of going to a hospital; and, with his honest cooperation, this will encourage the drug-habitué to make a trial at it.

He must be impressed to follow directions closely and honestly. His medicines must be taken with regularity, and the opiate must be reduced but very little every two or three days, perhaps 1-4 grain at a time. He must be cautioned not to reduce it too quickly—which, in his enthusiasm, he may do—as that will upset the physiological balance of the system. Usually the pride manifested at the successful reduction of the drug and the desire to succeed, when once it is undertaken, and the little suffering or inconvenience it entails will prompt the patient to leave it off too quickly. This then will disturb the adequate balance of the system, and disaster may result in its successful accomplishment. Therefore, it is safer to make haste slowly.

It may take a month or two, or even six months, but, if faithfully carried out, success will surely crown one's efforts.

The better to illustrate my observations and conclusions, one case will be cited as an example of this method of treatment.

Case 1. Woman, age 45, of good family history, with neurotic tendency, well preserved in mind and body. She had suffered severe sciatica when a young girl, which apparently resisted all methods of treatment. She was, therefore, given a tablet containing 1-4 of a grain of morphine sulphate and 1-150 of a grain of atropine sulphate. She found it necessary to take twelve tablets a day in order to obtain relief, and has been taking that amount daily for thirty years, although the cause for which these tablets have been taken has disappeared many years ago.

Owing to the federal antinarcotic law, she was unable to obtain the necessary tablets from her druggist. She was, therefore, referred to me for a prescription. I agreed to comply with her wishes, provided that she would follow my advice, so as to cure her of this drug habit. She expressed surprise at the possibility of being able to accomplish this and doubted her ability to undertake such a course of treatment at this time. On my assurance that she would feel no inconvenience, I finally gained her compliance and she fully assented to place herself under my care. She was informed that she need not make any changes in her daily routine of living, only that her diet must be plain and wholesome—no sweets, pies or pastry; liquors of all kind must be taboo, as well as the excessive use of tea or coffee. Also, that she must carefully and with regularity follow directions as regards the taking of her medicines.

As it is necessary to stimulate the liver and bowels, in order to overcome the stagnation which is caused by the drug, a pill of the following composition was prescribed:

Calomel	gr. 1-6
Podophyllin	gr. 1-6
Bilein	gr. 1-8
Strychnine arsenate	gr. 1-250

One to four such pills, as may be necessary, to be taken at bedtime, and to be followed in the morning by a dose of saline laxative. This to be repeated for three consecutive nights, so that the bowels would have operated freely. After this free purgation, the following antiaddiction tablets (Abbott's) were prescribed:

Xanthoxyloid	gr. 1
Atropine valerate	gr. 1-250
Cactoid	gr. 1
Strychnine valerate	gr. 1-60
Nuclein	[illegible]

One such tablet to be taken every three hours, day and night, until dryness of the mouth be experienced, then only every four hours.

While taking these tablets, the drug must be gradually lessened every two or three days. This can, therefore, easily be accomplished without any hardship. When the patient begins to realize this, it will be an incentive to make speedier progress and leave off more than the system can stand and, therefore, disturb the adequate physiological balance. Disaster will result in consequence and the patient will be discouraged. This lady reduced her supply of tablets, from 12, to 1 1-2 a day, in thirty-two days, and, as she remarked, without noting the least discomfort.

However, in patients of a nervous temperament, there is that factor to contend with; so, the following will overcome extreme nervousness and sleeplessness:

Specific passiflora	oz. 1
Specific scutellaria	drs. 4
Glycerin	drs. 12
Chloroform water, enough to make	ozs. 4

Directions: Two teaspoonfuls in a wineglassful of water every two or three hours, when nervous, restless or sleepless.

This lady hardly felt the necessity for this; yet, others could not sleep or be comfortable without it.

Owing to sickness in her family and a great deal of worry in consequence, this lady came to a standstill in the amount of her reduction. However, she did not lose courage, and by April 1, 1916, she was free from the drug. She certainly felt grateful, as shown by the receipt of the following letter:

"My dear Doctor Tuchler: I feel that I owe you a great debt of thanks for breaking me from the drug-habit. I had used morphine for thirty years. It was given me first for a combination of ills—sciatica, rheumatism, lumbago, and gout, from which I suffered tortures for years, and then for pains in my heart. My doctors told me I could not live without it. When I went to you on the 1st of December, 1915, you surprised me by telling me of your cure, which I gladly commenced at once and found it did all that you claimed for it. When I commenced your treatment, I was taking 4 grains of morphine a day. Now I take none, and I have never had one moment of inconvenience at the present time nor while taking your

treatment. I feel like a new woman and at least twenty years younger. Once more I thank you. Very gratefully yours, Mrs.——. San Francisco, Cal., April 12, 1916."

The following conclusions have been arrived at in treating cases of drug addiction by the ambulatory method:

1. The patient's confidence and cooperation must be fully gained by an assurance that no difficulty nor hardship need be undergone in order to obtain a successful result.

2. A slow and gradual reduction of the drug every two or three days—just a little each time—will not disturb the adequate physiological balance of the system when the above treatment is faithfully carried out.

San Francisco, Cal. A. S. Tuchler.

[Doctor Tuchler's gratifying results prove that it is possible to treat these difficult cases of drug addiction successfully at home, provided several conditions are complied with. The physician must possess the enthusiasm and thorough knowledge of the subject, displayed by our correspondent. He must, as Doctor Tuchler insists, gain the absolute confidence of his patient; and, what is not always easy, the patient must bring to bear a not inconsiderable degree of will-power and persistency on his own part, in order to aid the physician in his management of the case. While undoubtedly there are many cases in which the ambulatory treatment advocated by Doctor Tuchler results in the lasting recovery of the patient, probably the majority will lack in one essential or another, and the method will fail for that reason.

As a general proposition it is our opinion that these patients do best under the regimen of sanatorium treatment with its careful supervision and with the close and constant contact between physician and patient. We believe that it is only in the intelligent and strong-willed patients that home treatment may be tried; or then in cases in which sanatorium treatment is either refused or is impossible. Whenever the patient can be persuaded to enter an institution peculiarly intended and prepared for the treatment of drug addiction, it is to his best interest that he should receive the advantages of institutional care.—Ed.]

HOW I TREAT NARCOTIC HABITUATION

The treatment for the drug-habit is one of the most fascinating experiences that I have encountered in medical practice. You have to deal with a psychical as well as a physical abnormality. I employ the hyoscine-hydrobromide treatment. My method differs from the usual hospital practice in the manner of administration in relation to the frequency. I practice the gradual-withdrawal method, within a period of from five to ten days.

I give a combination of calomel, podophyllin, jalap, and rhubarb as a purgative the night before starting. The next morning I give a big dose of epsom salt. After thorough purgation, I give, in combination, 1-2 grain of morphine, 1-60 or 1-40 grain of strychnine, and 1-100 grain of hyoscine. Before the effect of these drugs has entirely disappeared, I administer hyoscine, 1-100 grain, and strychnine, 1-40 grain, say, at about noon. Then, at night, about 9 o'clock, I given 1-4 grain of morphine, 1-100 grain of hyoscine, and 1-60 grain of strychnine; that is to say, for the first day. The second day is largely a repetition of the first one.

Then I make my visits further and further apart. Never feed any solid foods during the first forty-eight hours; if you do, you will have on your hands one of the most obstinate cases of acute indigestion imaginable. Milk, lemonade, and broth seasoned with butter are all right, but it is even better not to let the patient have any kind of food for the first forty-eight hours.

So far as the suffering is concerned, that is more imaginary than real. However, if my patients are really restless, I do not withhold morphine, in small doses. The amount of the drug that the patient has been taking is not considered by me—the treatment always is the same.

A word about hyoscine. I read in my materia medica, and have always been so taught, that this alkaloid is a hypnotic, but my own experience with it is the opposite. Your first case may alarm you somewhat, when the patient is under the influence of hyoscine, but it is all right. Just watch the pulse. The pupils dilate to two and three times their usual size. The patient will pick at the bedclothes, hear noises, see things (such as bugs, spiders, etc.), talk incoherently; but all of that is the effect of the hyoscine.

In some hospitals and sanitaria, the patients are put under the influence of hyoscine for from forty-eight to seventy-two hours. I hold that that is a mistake; for, the patient is, in a manner, unconscious and when he wakes up or becomes conscious he does not remember very much what has happened. Therefore, when he is discharged, he goes right back to the habit. A man put in jail

will do the same thing—that is, go back to his crimes, if he has been in for six months.

You must, as in all other diseases, have the confidence of your patient. I have never seen any condition in which suggestive therapy acts so well. In hospital-treatment, the patient does not get that consoling, sympathetic, humane talk that he gets—or should get—in private practice. You can readily see the difference. I often compare the hospital-methods with the processes in a big mechanical shop. So, in an institution, each one does a certain kind of work. It comes mechanically and by routine; hence, there is not much sympathy shown, and, while the patient is physically free, mentally he still is a slave. Consequently, at the first despondency or debauch he readily takes up again the old habit.

All this is my own actual experience, without the aid of books or fellow assistants.

A. L. SAUNDERS.

Memphis, Tenn.

[Our feeling is expressed in the comment on the preceding article—that every narcotic habitué, when under treatment, should be under close supervision, preferably in an institution. Also, no treatment for these addictions is complete that does not include thorough eliminative measures—purgation, diuresis, and diaphoresis. And the doctor *must* watch the heart's action closely.—ED.]

MY TREATMENT OF INFANTILE DIARRHEA

When a child, in its second summer, has ten to twenty copious watery stools in twenty-four hours, griping pains, high fever, and so on, and these symptoms have continued for one to two days, I always begin with calomel with aromatics, 1-10 grain every half hour until six doses have been given. Two hours after the last dose of the calomel, I order castor-oil; although in older children I always prescribe a laxative saline.

To control the fever, I take 3 granules of aconitine (gr. 1-800) and 3 of digitalin (gr. 1-64), dissolve them in 24 teaspoonfuls of water, and give of this a teaspoonful every half hour, until the fever goes down. Then this medicine is omitted for a few doses or even for an entire day and night. If there is not much fever, I leave off the fever-medicine until after the castor-oil has operated.

For the diarrhea, I give either zinc sulphocarbolate or the "intestinal antiseptic," i. e., of the combined sulphocarbolates tablet. To older children or if there is much pain I sometimes give copper arsenite 2 tablets of 1-100 grain each, to 4 ounces of water, a teaspoonful of this being given every half hour. This will control the pain much better than does opium.

I am a user of the alkaloids and have been for twenty years. I have taken CLINICAL MEDICINE, originally THE ALKALOIDAL CLINIC, nearly ever since its first issue, and I confess that I could not practice medicine without the active principles. Incidentally, I enjoy reading Dr. C. S. Cope's articles very much, as well as all the rest.

T. R. NASON

Columbus, O.

VARIOUS SUMMER TROUBLES

So far as my treatment of diarrhea is concerned, I may say, first of all, that there is so little of this class of troubles in western Washington that, really, I hardly know how I might treat the varieties that you, living in the eastern and southern sections, have to deal with.

I have been in this state, excepting for a year and a half in California, since 1889, and in all these years have not seen a dozen cases of simon-pure "summer complaint," such as I encountered in New Brunswick, Canada, and in California. I have been in this little town of Sultan for eleven years and have seen only one genuine case of "summer cholera," and that child was brought to me from eastern Washington; it died soon afterward, for it was moribund when it arrived in this place.

Acute indigestion is frequently encountered here, caused by overeating decaying green fruit and such things.

My treatment is very simple and most effective. In the case of large children, a hypodermic injection of 1-10 grain of apomorphine and an enema of epsom salt will clean out the alimentary canal in short order, after which I give hyoscyamus in any form, together with minute doses of ipecac every hour or less till the nausea is gone. Then the patient gets whey or barley-water in small quantities until he drops off into a good sleep. And in nearly every instance the second or third day will find the patient convalescent and ready for a diet proper under the circumstances. Then, if there is any catarrh of the stomach, I give some hydrastis in any form, so long as it is pure, and soon the cure will be complete.

There is nothing that I know of that will quell colicky pains so quickly and surely as hypodermic injections of apomorphine. I have tried this many times, and the measure never fails to relieve more or less.

For quickly cleaning out the stomach and bowels after a debauch, there is nothing so effectual as, first, 1-10 grain apomorphine given hypodermically, then a large enema of solution of epsom salt, 1-2 ounce to 1 pint, or 1 ounce to a quart, of water.

For congestions, I give small doses of calomel, ipecac, and sodium bicarbonate, and (also by mouth) epsom salt in 10-grain doses, every hour for six hours. Do not give any morphine after the apomorphine in these cases; hyoscyamus [or hyoscyamine] is better. If needed, sodium sulphocarbolate must be given after the bowels are empty. In any case, if the bowels are infected, give calcium sulphide freely; still, injections of epsom salt will work wonders.

If blood passes, give high injections of fluid extract of hamamelis and borax or, if severe hemorrhage comes on, give emetine hypodermically. I have controlled a chronic case of bleeding ulcers of the bowels persisting for nine months by means of 4 hypodermic injections of emetine hydrochloride. Three given in September, 1916, prevented bleeding entirely till May, 1916, when the bleeding started again, but one dose stopped it at once, and it has not bled again. This woman had bled almost every month for years (both before and after the climacteric), often for a week at a time, at any bowel movement. Nothing ever controlled it before. Her bowels are always loose, but now there is no blood and she feels much stronger.

I enjoy CLINICAL MEDICINE greatly. The June number is good. I have tried chionanthus in two cases of diabetes and both were benefited; one, in fact, seems cured.

Keep an eye on liquid petrolatum—it does not promote digestion or assimilation. I have tested it out in my own family and find that it probably clogs the lacteals and causes the food to pass the bowels.

My daughter, a high-school teacher, tried it for sluggish bowels and found it produced weakness and hunger, the flatus discolored her clothes very badly and gave her a disagreeable odor both of breath and perspiration. Consequently, I directed her to discontinue it. Soon she improved and the bowels remained better. *The Medical Council* has mentioned the clogging of the absorbents by the heavy oil, but the odor and discoloration of clothes are my own original observation, and I give it to you as a pointer for future consideration.

THOMAS W. MUSGROVE.

Sultan, Wash.

[Doctor Musgrove has given us some valuable hints, and I am sure we shall all be grateful for more. The evidence as to the value of emetine in hemorrhage is convincing; and we know, from personal experience, what a useful drug apomorphine is for treating summer ailments.

Liquid petrolatum has its limitations, one of them being the tendency to "leak" with discoloration of the clothing. I believe this has been noted by everyone using it extensively. This difficulty can be overcome largely by using an emulsion of the oil which will mix intimately with the feces instead of insinuating itself around and by any scybalous masses. For this same reason, the emulsion is less likely to cause the delayed absorption sometimes complained of by those suffering from feeble digestion.—ED.]

BOWEL TROUBLES OF SUMMER YEARLINGS

Forty years ago, a mother with her yearling babe sprawls in bed on a hot summer's night, with every evidence of perfect health of both. The "wee sma" hours pass, and with them a life, crushed out by infantile cholera's steamroller. Pandemonium reigns. The doctor, hurriedly called, had ordered his pet prescription—a catechu and bismuth mixture—and finished the job with paregoric. It was about the best he could do then. This sketch is neither overdrawn nor confined to the treatment of children.

The misfit in that day, and in these days, was, and is, due to lack of, and disregard for, fixed instructions for the mothers as to how they should observe every bowel action for evidence of any radical change.

If the doctor's catechu, bismuth, and paregoric happened to delay the funeral forty-eight hours, the breast was given liberally to the child in order to quench its thirst, at the same time filling to overflowing the entire intestinal canal. The febrile state, present before the explosive outbreak, was started anew. The doctor's duty was, and is, to teach the mother a few simple laws of cause and effect, to tell her about the character of the dejecta at the beginning of an infant's existence. This applies today. Did the doctor himself know about this then, and does he know today?

Today, with our advanced therapeutics, this baby could be saved. How? Emetine instanter. Supportives, such as dry heat, over all the body. Glonoin and atropine, each to effect—in a case like the one cited, hypodermically, in order to overcome the danger of collapse, and adding strychnine, then giving the emetine. When a reaction is established, give 1-10 grain of calomel, repeated at half-hourly intervals until 1 grain, all told, is given.

Repeated lavage of the bowels with saline solution must be practiced while pursuing this course of medication.

Should colicky pains give trouble during any period of the attack, control them with hyoscine hydrobromide.

The foregoing plan should overcome the trouble. And it will. The child will rally quickly, but will need careful supportive treatment, besides proper intestinal asepsis—and for this I know nothing superior to the sulphocarbolates.

In the mild cases, treatment is the same, except for omitting the "collapse drugs." In all cases of summer diarrhea, withhold the usual nourishment for from twenty-four to forty-eight hours.

Should colitis result as a sequence to any such case, then nothing succeeds like the bacillus bulgaricus, freely given, to establish friendly bacterial colonies in the colon. Only be careful not to overdo a good thing and get a lactic-acid excess. This method will seldom cause grief.

J. D. Justice.

Hunter, Okla.

HOW TO GIVE INTRAVENOUS INJECTIONS

Fads and fashions come and go. They leave behind them data that in some future time are dug up and rejuvenated. At present (among other things), intravenous medications are the vogue. However, many physicians still shudder a bit at the idea of putting drugs directly into the blood.

In the treatment of malaria, I have been using, in this manner, quinine and hydrochloride, and, as compared with intramuscular injections, there is all the difference that can be imagined. First, the former are more potent; secondly, there is no sore; thirdly, no reaction occurs. The patient will tell you that he tastes the quinine in the mouth before you have completed the injection, and he may experience slight nausea for a few minutes.

All you require is, an all glass syringe of not over 5 Cc. capacity; a good sharp needle; and some arrangement for sterilizing. For the latter purpose I use a chafing dish: put some water into it, and light the burner. I then tie a string around the syringe plunger and needle. Then deposit them in the dish. I also put into the water a small cup. I boil the whole for ten minutes.

Now pour the cup full of boiling water, then allow to settle and cool for a short time. Remove the syringe with *sterile* hands and place the dose of soluble tablets that you desire to administer (usually 5 of 2 grains each) in it. Push the plunger down on them, then through the needle draw in enough water from the cup to make a perfect solution.

Bind off the selected vein to produce tension (usually the arm above the elbow). For this purpose, a good, clean handkerchief will do. Wrap the binder around the arm twice, then give it a double twist, so as to make it hold without tying a hard knot; or moisten it a little, when it won't slip. This is, to allow you to release the pressure easily, in order to let the blood start to flow after your needle has entered the vein. Next, with the stopper of the bottle, dab a little tincture of iodine on the skin at the point selected for the puncture. Now all is ready.

Make the puncture into the vein. You will know when the vein is entered by the return flow of blood into the syringe. For that reason, you do not want to use a needle that is too small. As quickly as you see the blood in the syringe, make pressure on the plunger, for the blood might clot in the needle. After you have expelled all the blood from the needle, take time to relax the pressure, by loosening the bandage, to allow the blood to flow, as said. This will make it much easier to expel the contents of the syringe into the vein, because there is considerable back pressure. All done! Now withdraw the needle quickly and place a finger over the puncture for one minute, then wipe the iodine off with a little alcohol.

All this will not give as much pain as does a hypodermic injection of morphine subcutaneously.

I use a B. & B. platinum needle, about one inch long and just a little larger than the regular hypodermic needle. I use the same needle for giving regular hypodermic injections as well.

I never have had an accident of any kind. All the complaint the patient will make is, that he will probably mention that he is tasting the medicine before you get it all into

the vein. I have used it at a temperature of 105 degrees, with the effect that the patient will have a profuse sweat inside of thirty minutes, and the fever will not return.

If any reader has under treatment a case of chronic chills that he cannot cure and which does not depend upon hookworm-disease, let him try this plan. It does not even make the ears "rattle."

T. H. STANDLEE.

Edgewood, Tex.

THE ANFRACTIOUS AUTOMOBILE AND ITS DRIVER

We, the readers of THE CLINIC, congratulate ourselves upon being able to peruse, among many other interesting articles, those by Doctor Benedict about the automobile. This fractious and festive vehicle has become such an important element in the workaday life of the doctor that it compels us to take it seriously. Any item of knowledge added to that we already have is a welcome addition, especially when one depends entirely upon the machine for transportation.

I fear that I am not in the doctor's class of novices, having now driven over a total distance of more than a hundred thousand miles. Some of those miles have been very long, some very short. The shortest ones have been those when I have taken my family for exploratory journeys over the far places in this wonderful country of ours. On these journeys, my son and I drive turnabout. We disagree with some of Doctor Benedict's preachments, but it is not of that that I wish to write. According to the various observations made by us on our journeys, far and near, we have formulated a book of rules. I am impressed with the idea that it is a good little book, even for the veteran driver. I will expound some of its important doctrines.

THE BOOK OF RULES

1. Meet to the right, pass to the left.

2. On every railroad a train is coming. It remains to be seen whether there is time to cross.

3. Always cross a railroad-track on the low gear, and never attempt to change gears while crossing.

Exception: Provided one can see for a long way in both directions and, if the ground is level, cross on the high gear, but make a slowdown.

Truism: A railroad crossing is never on level ground.

A blood-chilling escape in the fastnesses of the Cascades caused us to formulate the next rule, viz.:

4. Any old mossgrown track has trains on it.

5. At the bottom of every hill there is a bump.

6. At the end of every bridge and at every culvert there is a bump.

Exception: On one of our pilgrimages we visited the lovely and fertile valley of the Yakima, where an immense irrigation-project has literally caused the desert to blossom like the rose. Irrigation-ditches of large caliber usually follow the tops of ridges. Hence, this addition to the rule book:

7. In irrigated districts at the top of every ridge, there is a bridge.

8. On obscure curves, you, yourself, must avoid collisions. The other fellow will not.

9. If you "cut" obscure curves, your collision is only a matter of time.

10. *You* must take care of the pedestrian, for, he will not take care of himself.

11. You must see all of the road all of the time, and in towns you must see all of the street, including all of the sidewalk all the way back to the houses.

"See that abstracted individual standing quietly on the sidewalk? He is going to wake up quickly and walk right in front of your machine."

12. Every slow-moving vehicle has a child hanging to the back of it. You cannot see the child, but it is going to drop off and run in front of you too late!

Collisions with inanimate objects are usually easily accounted for. Certain animate objects, however, deserve special thought. Children are swift on their feet and absolutely irresponsible. In play, they are deaf to your horn and they do the most unusual and unaccountable things. Playing quietly by the roadside, they will run swiftly, without warning, in front of your machine. An accident has, thus far, not fallen to my lot, but I can imagine the horror of striking a human being with the heavy and swiftly moving car.

When a locomotive-engineer makes an application of the brakes for a slowdown, he calls it, in the vernacular of the railroad man, "pinchin' 'em down." We have adopted the vernacular in the formulation of rule 13, to wit:

13. When you see a child ahead, pinch 'er down.

Another animate object deserves special consideration; not because of swiftness of foot, but because of a most rudimentary

knowledge of the automobile. I refer to the cow. Her cerebration appears to be exceeded in deliberation only by her fixed determination to avoid sudden or coordinated physical exertion. We have made sundry endeavors to improve her education, but have, as a result, merely the marks of crumpled front fenders. A front fender judiciously planted in the flank of a cow does not hurt the cow, but it does crumple the fender. We have, therefore, set the words of rule 14 to the tune of an old drinking song, as follows:

When you see a cow, pinch 'er down,
O, when you see a cow, pinch 'er down,
When you see a cow, pinch 'er down, pinch 'er down,
Pinch'er down, see a cow, pinch 'er down!

The next time opportunity offers, slip your car close to a cow and sound your claxon, and see whether you think it puts her teeth on edge.

J. H. Bristow.

Portland, Ore.

A WARNING AGAINST AN IMPOSTOR

The W. B. Saunders Company, of Philadelphia, has requested us to publish the following warning:

"We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions for medical journals and for medical books published by various firms. He usually represents himself as a student working his way through college and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas, and F. C. Schneider, and he usually gives a receipt bearing the heading of some society or association, such as The United Students' Aid Society, The Alumni Educational League, The American Association for Education, and so on.

"The description given of this swindler is as follows: A young man of the Jewish type, rather slender, with very dark hair combed straight back, and shows his teeth plainly when talking.

"The whole scheme is a fraud. The societies mentioned do not exist. The idea is, to collect money by offering special discounts and prices on medical books and journals, and then to skip with the money.

"This young man does not represent The W. B. Saunders Company, whose name he frequently uses. He is a fraudulent subscription-agent, and physicians generally should be on the lookout for him."

[In this connection, we refer to an article on the same subject printed in the May Clinic, on page 154. We should not be surprised if the man referred to by The W. B. Saunders Company is the same one of whom we know as I. D. Farr.—Ed.]

IT MUST BE TRUE

The best and finest doctor
In all the country 'round
Is that young Doctor Gizzem,
Who lives at Jerrytown.
It does beat all how many folks
He's snatched from grim death's door;
Since he's been there the folks don't fear
The fever anymore.
Some of his patients die, of course,
But you may be assured,
If they had done as Doc had said,
They leastways had died cured.
You take his dope a little while,
And you'll soon get your health.
How do I know this all is true?
Why, Doc said so, himself!

G. W. Burner

Johnstown, O.

MORE ABOUT THAT SWINDLING SOLICITOR

We have just received another communication from a physician in Madison, Illinois, who writes as follows:

"On May 26, I gave a check for $5.00 to a man calling himself Geo. Walker, who purported to represent The General Supplies Company of Chicago. His plan was, to sell membership cards, and, by paying $10.00 per year, you would become a member and be able to buy auto supplies at considerably less than the retail price. As I was to receive a catalog in a few days and not getting any, I wrote to The General Supplies Company, and I will give you their reply.

Dear Sir: Referring to your letter of the 5th instant, addressed to The General Supply Company, 34th and State Streets, Chicago, which letter, after search by the postoffice authorities for the above company at the address given has been turned over to us:

We hasten to advise you that Mr. George Walker does not represent us and, furthermore, that we do not do business on a socalled "membership-plan." We issue no catalog, but we do deal in automobile and bicycle supplies, together with the other line of goods shown on our letter-heads.

For your information, I will state that yours is the second letter of this kind that has been turned over to us concerning the actions of Mr. George Walker, the previous letter being received from Dr. O. A. Kell, Salem, Ill., under date of May 30.

We handle "Ford" supplies and can supply them to the consumer at a reduced figure; also tires, etc.

Respectfully,

R. M. Tomkins.

"I believe that, if the doctors who read Clinical Medicine were informed about this, it would perhaps save them the fee and also be able to turn this man up."

[We doctors have always been more or less "easy marks" for confidence-fakers, and it is time that we show these gentry that we can keep our eyes open.—Ed.]

POTATO PARINGS FOR EXTERMINATING LICE

I read in your journal for March an article recommending oil of turpentine as an exterminator of lice. I modestly submit a remedy which I have used for years with unfailing success. It is equally fatal to any kind of lice, whether on animals or human beings.

Boil 1 quart of potato-parings in 3 pints of water, strain. Apply the cold liquid freely to the infested surface. It will kill all the vermin and put the nits out of commission.

Alice M. Thompson.

Tooele, Utah.

BACTERIN TREATMENT OF ECLAMPSIA

Lately I have used bacterin-therapy in puerperal eclampsia, with marked success. The baby was born at 12 midnight, and at 1 o'clock, just as I was leaving, I was called back and found the mother in convulsions. I gave veratrine hydrochloride, to slow the pulse, and repeated it in each attack, which came on every three hours. But, as they continued into the second day, I became alarmed and gave her a mixed bacterin of 100 million colon-bacillus and 50 million each of streptococcus, pneumococcus, and staphylococcus aureus, albus, and citreus. After the second injection, given twelve hours after the first, the convulsions ceased to appear. I do not know which did the work, but I presume the colon-bacillus was at the root of the evil.

This may be a hint worth trying, for at least it will do no harm.

N. W. D. Cox.

Arlington, Mo.

ONE WAY OF TREATING DYSENTERY

Conforming to your request for a symposium on pellagra, dysentery, and summer diarrheas, I venture to submit the following on dysentery, as just now I am in an epidemic or, rather, a pandemic of that disease, and will give my very successful present treatment while it is fresh in my mind.

I prescribe calomel, 1-10 grain; zinc sulphocarbolate, 1-4 to 1-2 grain; bismuth subnitrate, 1 to 2 1-2 grains; to be repeated every two or three hours, to clean out and aseptisize the bowels. I combat the fever and the hemorrhage with aconitine, magnesium phosphate, and Bulgarian bacilli, together with atropine, dosed according to age. I wash out the colon with enemas of physiologic salt solution or ordinary soapsuds, to cleanse, and introduce after this a suspension of the Bulgarian bacillus, about one-half to one teacupful at a time; it depending on the age as to the quantity used with the expectation of retention.

If the bowels are *very* active, I prepare a solution of argyrol, 1 dram to 1 ounce of water, and of this solution I add a half to one teaspoonful to a half to one teacupful of sterile water and throw this into the colon, with the expectation that it be retained.

I feed albumen and buttermilk to which the Bulgarian bacilli have been added. Breast-fed infants need no feeding save the mother's milk. As a matter of fact, I never lost a breast-fed patient, and I have had many such in the past ten years. I have three under treatment now and all are doing nicely, although they had stools of mucus and blood as close as only thirty minutes apart and temperatures ranging as high as 103° F.

This present epidemic takes on the form of cholera infantum and is much harder to handle than formerly; but, I am glad to say, the disease is yielding well to my treatment.

Do not forget the old slogan, "Clean out, clean up, and keep clean," and feed the pauper.

If anyone can help out, I shall be glad. This is just my way of doing it. Others have other ways and other means. The other only thing I should add to the treatment is copper arsenite if the stools are green.

A. L. Nason.

Mathiston, Miss.

CURRENT COMMENT BY A COUNTRY DOCTOR

Near-Eclampsia and Autoinfective Septicemia.—The patient, a primipara in the late twenties, one of those individuals in whom the struggle to maintain balance between anabolism and catabolism is maintained only

by a strenuous draft upon reserve force when physical strain is augmented above the usual. Her pregnancy was uneventful until the term was nearly completed, in fact, nature was responding to the new physiological impulse in a remarkable manner. Urine examinations were negative, until the last one was made, four days before confinement. Edema, slight during late pregnancy, suddenly became very pronounced and abundant albumin appeared in the urine.

A milk diet was immediately insisted upon. Elimination was pushed, with an initial course of calomel, podophyllin, and bilein, followed by laxative salines. Then I continued with irisoid and chionanthoid, an old hepatic trouble of hers being in mind, while there was a yellowish coating on her tongue. Arbutin and *much water* were prescribed for the nephritic indications; the sulphocarbolates of lime and soda also were given, to meet evidences of intestinal autotoxemia.

No one, save the thoroughly efficient trained nurse, was aware of the imminent danger of eclampsia, since, at times, it is best to maintain a beneficial optimistic psychological atmosphere. However, both nurse and physician went into action well prepared for the possible eclamptic soul and body-harrowing of all concerned. The requisite treatment was all there; namely: veratrine, apomorphine, lobeline, pilocarpine, and elaterin; incidentally, blankets for a sweat aider were available and the hardware for a quick delivery was sterilized. But the delivery was without incident, save for being a "dry birth," and pituitrin was indicated late in the second-stage presentation, since the dilatation and diameters offered no contraindication, even in this primipara.

Everything went splendidly! Not so the lochia, which were scant and disappearing, the function of secretion being "on strike." That dreaded form of puerperal fever incident upon failure of the physiological process to care for the usually innocuous waste set in. The albuminuria continued. The gentle use of a *dull* curette for possible placental debris was followed by intrauterine pix-cresol irrigations. The main reliance, as always in like conditions, was a saturation with echinacoid alternated with calcium sulphide to the point of keeping the stools odorous therewith; a course of the Van Cott polyvalent vaccine being used as accessory treatment; while the asthenia was met with strychnine valerate, digitalis, and cactus, as indicated.

Even with cautious medication and restricted diet, dysentery, with mucous stools, appeared on the sixth day [illegible] and a circumscribed tenderness and [illegible] tympanites caused the figurative [illegible] on the alopeciatic attendant's head to rise in fear of peritonitis. Opiates were temporarily resorted to and hot applications of a saturated solution of magnesium sulphate under oilsilk were made. Cholagog action was maintained with chionanthoid, and the bowels were cared for with the syringe and exhibition of liquid paraffin catharsis excepting peristalsis being thereby prevented. Strychnine valerate was continued during convalescence, with nuclein and iron to aid the reconstructive processes. She made a good recovery, and she had an unweaned baby, to go into the hot weather struggle for its biological existence.

After all, it does not do to be worried by statistics; most of 'em were compiled before Van Cott's prepared bugs were added to echinacea. Keep cool and push the indicated remedy to effect, never overlooking corollary symptoms that may necessitate modifications of treatment. Forget all about medical nihilists. Know what your drugs will do, and reinforce them with the suggestion of conscious power. Don't start out by protecting your reputation with a gloomy prognosis. Finally, get consultation, if you need it. One way you can do this is by turning to your files of the up to date medical journals and seeing what someone else in the same predicament did. You may get a valuable hint. Yes, and you may find that the other fellow did just what you are doing, and thus feel that you have the help of an unknown friend.

Is a law strictly up to modern thought which would prevent a physician from advising a mother who must reproduce at such terrible risk of leaving the one she has an orphan? This writer leaves it to Doctor Robinson and others. Pretty serious thing to have a woman take chances on puerperal fever and eclampsia again, even though once fortunately placed convenient to careful attention and in reach of plenty of Van Cott, echinacea, and nuclein. It would almost seem that she should be allowed some slight say in the matter before again going down into the valley and needing a hard medical fight, as well as that petition in the litany, which was written by someone whose knowledge of human need extended to the awful trial of a woman perpetuating her species, even when physically fit to do so.

Bad Management.—As it is esteemed praiseworthy to report one's errors of judg-

ment, mention is regretfully made of the following obstetrical fiasco, hopes being had that it may prevent like mistake in judgment by some other practitioner.

The summons came at 3 o'clock on a dark morning: "Dat der granny woman she say hit 'shuah cross ways an' I better get 'er doctah." Questioning brought out that this darkey woman had been in labor for twelve hours and that it was something ranging between simple inertia and a complicated twin presentation. The previous day's work had been hard and retirement late; also the OB emergency department was not in its usual readiness. Thus, a delayed start was made—hot coffee being also awaited, in probability of a hard trip, with nothing clean or appetizing at the distal end thereof. Autosuggestion of a tough and undesired deal added to the general delay, and it was a full hour before everything up to and including the forceps, chloroform, pituitrin, and H-M-C were ready. Then came another hindrance, owing to the horse having become imbued with the same spirit of loitering. Once started, excellent speed was made, but there had been too much loss of precious time. A mounted messenger with a nearly winded horse met us on the way.

"No need 'er coming, doctor, hit's too late."

"Molly dead?"

"No, sah, she aint daid. She fine and done foun' her heir."

Twenty dollars and mileage gone. Also the added glory of a quick and painless delivery at the cost of one H-M-C and an ampule of pituitrin. If Aunt Jezebel's hands were not beyond the mother's high-power infection resistance, no M. D. will have any part in that accouchement. It was a case fully protected as to payment, too.

Some of Aunt Jezebel's Obstetric Certainties.—It will be of interest to those who have been relying on macrotoid, caulophylloid, and perhaps a bit of H-M-C to relieve after-pains that all this is entirely needless. Just put the woman's husband's razor under the mattress two days before confinement and leave it there, and there will be none of this disagreeable aftermath to combat. What effect the razor of other than the husband's, if, as at times happens, he is not the source of the heir apparent, Auntie does not say. Perhaps the razor's failure would be proof of infidelity.

No use to use atropine or any other drug to terminate lactation. Just milk the woman onto a hot brick, and that will do the work.

Under no circumstance, allow a woman to eat fish, even if they be bright-eyed and red-gilled in their freshness, for four weeks after confinement. It is one of the most deadly things that can be given during the puerperium.

Puerperal septicemia can only follow improper disposal of the afterbirth. Bury it properly, and all will be well. All this scrubbing is foolishness.

Refilling Prescriptions.—It would make it easier for the druggist who wishes to act correctly toward the physicians, and harder for the one who does not (perhaps he is influenced by the devil of economic determinism), if it were written upon all prescriptions that they were not to be refilled and no copy be given. The prescription is but a memorandum to the pharmacist of what to prepare for the patient *at that time and in his present condition, and for him only.* Incidentally, it is not for a neighbor or a second cousin, who might be injured by it. Why not have something to this effect on the prescription blank? Recently a man came to the writer, requesting that a refill be made of a copy of a prescription containing heavy dosage of sodium cacodylate. This had cured him of *rheumatism*; therefore, it would cure another for whom he desired it refilled. Perhaps the person upon whom the holder of the prescription was about to *practice medicine without a license* also needed sodium dimethylarsenate. However, that prescription was *not* refilled, neither was an extra copy made, as requested, to be given to the holder. The writer received a "ballout," and someone will, in all probability, accommodate the gentleman. But our skirts are clean.

That prescription should have been protected against its becoming, not a cureall, but a possible "harmall." Our prescriptions have always been protected with "Non rep. et non cop."; but, if we ever return to urban practice, it will state on the blanks in plain English just what the prescription is intended for: the patient himself at the present time. Don't blame the druggist, when the fundamental fault is at home. The large majority of pharmacists will do their part with proper cooperation from the doctor.

Personal Experience with Emetine.—Reading the current medical journals, the man skeptical about emetine value in pyorrhea will still be found, although he is now but sporadic. The truth about this drug is, as attested by many clinicians and writers, that it will kill the entameba of Rigg's disease. Most certainly, it will not relieve conditions requiring dental surgery. Conditions that

gave original cause of the trouble will immediately do so again if not relieved.

This writer, as a result of a rather early enthusiasm in the following of Bass and other exponents of emetine efficiency on the part of his dental adviser, Dr. A. Lawson, Jr., of Greensboro, Alabama, now rejoices in a most useful bridge swung to a canine tooth and incisor, which under former dental practice were condemned to extraction. Despite a characteristic looseness of the teeth before treatment, now they are firm, and rigid care is being taken of them. The slightest return of pyorrhea will be greeted with ipecac on the toothbrush and more emetine in the circulation, immediate consultation of a dentist not being overlooked. Six injections were taken in this case, three intramuscular, and an alternating three were made into the gums themselves.

Of emetine in dysentery, nothing will be here said, save that the writer still uses it, blood in the stools being the indication, without waiting for microscopic confirmation of the diagnosis. It is the first thought in hemorrhage, and not incompatible with other indicated treatment.

The Physician Drug-Addict.—In CLINICAL MEDICINE for May, request is made for comments upon the case of a physician who has become a drug-addict. It is most difficult to do aught else than to deliver a homily or call attention to some line of treatment with which the victim is doubtless familiar. In place of this, these remarks are made.

Many a splendid physician has, through overstrain or other economic conditions, become the victim of divers drugs, including morphine and "booze." The start was made in various ways, most often by pushing brain activity, in the attempt to do too much, by the use of dangerous therapeutic tools—tools that would not have been used on another. But, let that starting-business go. This unfortunate got started and society wants him to "come back." This he can do and become of great use to the social fabric and a source of personal happiness. But it seems to be a case where the main help that can be given is in arousing the consciousness of his own inherent power. You can come back, brother—do it!

Easily said, but not easily done. No! Not easily said—mighty hard to advise a soul- and body-sick brother, no matter what the desire to help him. As for its being easy for the advised one—on the contrary, it will be a mighty hard job for him, a great big man's job, a proposition where he must do the hardest kind of thing conceivable [illegible] physician, namely, treat himself. No other man can do it, although it most certainly can be done. This writer believes that the help-seeking brother will realize that [illegible] analysis it is up to him and that he will make good. It is straight up to him and his conception of Deity. Eliminate self pity realize who you are and what you are also what you still can be and *must be*. Those sick folks need you. You have saved lives, and you can save more including your own.

Change of location will be advisable. Hit a new place, put on a bold front, and do not overwork, either on your patients or through mental anxiety for fear you will not make good. Get that *fear* out of your mind. There are a lot of "knockers" in and out of the profession, but the majority of mankind wants to see you make good.

Maintain a good physiological metabolic balance, and realize that you *can make good*. Go to it, brother! Your case is not hopeless. This writer wishes that he could sit down before you, assume that laity-impressing look of consummate wisdom and write you a prescription. But this is impossible. Do it yourself, and realize that the indefinable but immeasurable force of good will is with you.

Skin Medication, a Lanolin Substitute.—There is a tendency to forget the value of the skin as a means for the introduction of medicinal agents. Probably this is because we fail to keep before us the picture of the corium as a network of capillaries, capable of carrying soluble material directly to the lymphatics and blood-vessels of the subcutaneous structures, thus giving prompt access to the general circulation. Often, in cases of refractory intestines or because of the inconvenience in certain cases of intravenous or hypodermic medication, the skin is the ideal route. Very often it is of untold value as an auxiliary to other procedures. Especially should the dermal route be a favored one in pulmonary and glandular affections.

The skin should be cleansed and relaxed. Soap and hot water, alcohol, benzin, and gasolin are all serviceable at times. The vehicle for the medication must be selected with a view to penetration and solving power. When an ointment is chosen, the most universally employed and effective base is wool-fat (lanolin, adeps lanæ). The phenomenal rise in the cost of this substance, largely owing to the reprehensible custom of using mainly foreign products in medicine—even as to the sheep or other raw material grown

domestically—makes a substitute advisable. Lanolin is too high-priced, both for the physician who purveys his own medicine and the one who cooperates with the pharmacist and the patient, in a real effort to avoid expensive prescribing, while always maintaining efficiency.

Thus it was with pleasure that note was recently made of an excerpt from a German pharmaceutical publication treating of the use of whey as a wool-fat substitute. The use of the milk-whey for some time by the writer, indicates that it is a complete success, and notes on the method of use are here given, so that it may be outlined for those as yet unfamiliar with it.

Take a small amount of tragacanth and soak it for a few hours in ordinary whey until it has become a jelly, then work up with more whey until a rather thin jelly of perfect smoothness has been made. Now add any preferred preservative. Alcohol may be used, if desired, only it must be remembered that tragacanth is practically insoluble in this so that it must not be added until solution is completed. Finally, incorporate with about an equal part of petrolatum.

This ointment-base will take up a large amount of an aqueous solution and the whey will penetrate the tissues apparently as well as does lanolin. Of course, the directions will be, to rub in well, the same as with any other base. Cacao-butter or U. S. P. cerate may be added to make a stiffer preparation, when desired. A little practice will surprise one with the ointment possibilities of this.

This recommendation of whey as most excellent and cheap is made by one who is rather strong on "rubbing in" his remedies available for this use, thus not being limited to mercurials and the wonderfully effective lobeline. This, however, is not a treatise on endermic medication; just a hint on whey-jelly.

A. L. Nourse.

Sawyerville, Ala.

PELLAGRA, AND THE GOLDBERGER THEORY

I awaited patiently the arrival of my June number of Clinical Medicine, to see what the "family" had to say about pellagra, only to be disappointed, for there was not a word in it about this very important disease. It seems to me that since Doctor Goldberger's declaration that the disease is the outgrowth of faulty dieting or unbalanced rations the "family" and the medical profession at large have accepted this dictum as final and conclusive.

I am still encountering a great many cases of pellagra, and I find them just as unamenable to treatment as before we had Goldberger's pronunciamento. Consequently, I am convinced that the last word has not been said as yet about the cause and cure of pellagra. Let us hear from the Clinic readers.

A. W. Dumas.

Natchez, Miss.

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[Doctor, if you will run through the back numbers of Clinical Medicine you will find that we have never accepted the Goldberger theory as "final and conclusive." It is an interesting hypothesis, and Goldberger advances facts of extreme importance to anyone treating pellagra, yet the theory, in our opinion, fails to explain everything; indeed, is very far from doing so.

We were much interested in an exhibit made by the Post-Graduate Medical School and Hospital at the last meeting of the American Medical Association. In this exhibit there was presented a most exhaustive study of the pellagra problem, based upon studies carried on by field investigators in the south. In a number of communities a complete census of pellagrins was made, and the various environmental, racial, sanitary, dietetic, and other possible etiologic factors were considered with extreme care. It was shown that pellagra flourishes in insanitary communities; that it largely disappears when a city is provided with modern sewerage-disposal facilities; that it apparently is transmitted from person to person and from house to house; that diet does not play such an important part in its persistence or cure as we have been led to believe; that it is readily cured—especially when the patient can be transplanted to a cooler climate; and that, to put the whole thing in a nutshell, it is presumably an infectious disease of alimentary origin.

We must not jump to the conclusion that *this* is the last word. It is only the beginning. But it gives us greater reason for faith in the treatment which we have advocated in the past, and which continues to give good results. Intestinal antiseptics, saturation with calcium sulphide, and arsenic (usually administered hypodermatically as sodium cacodylate), together with skin applications and gargles of picric acid, are the remedies most

generally found of value *And they are all antiseptics!*

In spite of the preceding I believe in the Goldberger high-protein and scant-carbohydrate diet, but as an adjunct to other measures, not as being sufficient in itself.—Ed.]

CULLS FROM A PHYSICIAN'S NOTE BOOK

Money spent in correcting a wrong is a good investment.

In collecting, remember that a debt reluctantly paid is half lost.

Show me the physician who can *cure* a disease. I have never seen one.

Any man who pays too much for his goods swindles his customers.

Of all the "chickens that come home to roost" revenge takes the cake.

The person who tells all that he thinks he knows is named Frank.

Do not urge your friends to follow the good path. Hit the trail and tell them to come on.

Division and defeat not only begin with the same letter, but they are twins.

Self-denial carries away a pint of pleasure only to return with a bushel of real joy.

"Honesty is the best policy" is a rotten proverb. If that be the only motive for honesty, it is a dishonest one.

Just one little seed of happiness sown in some human heart will bring you a splendid crop of huge proportions.

People who say "revenge is sweet" are fooling themselves. It has a come-back that is as bitter as gall.

Wrath is a two-edged sword that has no handle. When you undertake to use it on others you always cut your hands.

Justice can not see very well, but Revenge usually is at hand to tell her where to strike.

Envy and Lust are demons lurking beside the road to Heaven, eager to push you into the gulf of Regret.

Do not think that the book agent is the liar supreme; the diplomat is the smoothest liar that God ever constructed.

Do not be too harsh with an old she-gossip. "The dog that will fetch a bone will carry one." You may use her as a messenger of good.

Sixty-two and one-half percent of the trouble in this world comes from the acts of those who assume to be grand-jury, judge and executioner for those whom they dislike.

A thief is one who steals your cash. An arch-thief is one who steals your good name. The law punishes the thief, but proper and adequate punishment for the arch-thief has not yet been devised.

W. D. Haines

Marshall, Minn.

HOW I TREAT DIARRHEA

The first thing I have in mind on being called to a case of diarrhea, be it an adult or infant, is, to establish the diagnosis with reference to the etiology of the trouble. Then one's interest in the case may be said to start up with real vigor.

The all important problem of the treatment of any disease, it seems to me, in these days of advance in our noble science, has been obscured a good deal, for the up to date student of medicine, in the overemphasized emphasis of "diagnosis," arrived at by a process of "signs and wonders and fearful things," so that there is danger of the physician becoming merely a diagnostician, when, in sooth, a real physician is an evenly balanced composite creature known as both a diagnostician and clinician. Else he is no physician at all.

I divide diarrheas into two main groups, namely: (a) that of adults, and (b) that of children, including infants.

In adults, I look for one or other of the following varieties:

1. Emotional diarrhea, sometimes seen in men and women who have been under the spell of exciting circumstances. (For instance, "anywhere in Europe"—the zone of war—in these days.) A sort of increased peristalsis, with inflammatory symptoms absent.

Treatment: Remove the cause or let the victim get used to it. The effect will disappear spontaneously.

2. Fatty diarrhea, the result of deficient pancreatic secretion, in consequence of which an excess of fat is found in the stools. Here I prescribe a fat-free diet, as, for example: (1) Lean meat, 300 Grams; toast, 200 Grams; white of egg, 100 Grams; syrup, 90 Grams. (2) Meat, toast, macaroni, potatoes, tapioca, white of egg.

Or, arranged for meals, thus: Morning: Lean meat, 100 Grams; toast (no butter), 50 Grams; coffee au lait (no cream), 1 cup. Later: Albumen-water (from 2 eggs), 1 glass. Noon: Clear soup (no fat); lean meat, 100 Grams. Later: Albumen-water (from 2 eggs), 1 glass. Night: Lean meat, 100 Grams; bread or toast, 50 Grams; rice with milk (no cream), 50 Grams.

3. Diarrhea, with proctitis, in which the stools are frequent but small in amount, con-

taining much mucus and blood and very little fecal matter, and there is much tenesmus.

4. Diarrhea from whatever cause, with which gastric symptoms are associated.

I invariably order rest in bed and a scant liquid diet.

If seen early, the bowels are emptied with calomel in divided doses, followed by a saline laxative. Then, in a few hours, bismuth or zinc and codeine compound or the sulphocarbolates, as indicated, 1 tablet three times a day. H-M-C modified (an old friend of mine), by mouth, for control of severe pain, always.

In children: First find the cause. Since diarrhea is so common in bottle-fed babies during the first or second summer if the surroundings are dirty and the air is vitiated, always look for the specific organism in the stools. In a large percentage of cases, you will find one of the varieties of bacillus dysenteriæ.

I have seen various types of this disease in infants varying from a mild form of indigestion to quite severe forms of acute ileocolitis, both in breast-fed and in bottle-fed babies; and, while occurring more frequently during the summer months, it may occur at any season of the year.

In all these cases, it has been my attempt to change the character of the intestinal flora. For this fundamental idea, I am indebted to the personal advice and work of Dr. Arthur I. Kendall, offered some years ago, when we worked in the laboratories of the Harvard Medical School. The aim must be to displace or change the disposition of undesirable organisms proteolytic in nature, by regulating the patient's diet, so that carbohydrates predominate. Kendall has shown that the bacillus dysenteriæ (Shiga-Flexner) or both the bacillus coli and the streptococcus constitute the usual intestinal microbic flora of babies suffering from bacillary dysentery.

My treatment after the initial laxative is essentially supportive. I say: Feed the child, but see that carbohydrates, preferably lactose, predominate. In consequence, the infecting organisms in the intestinal tract are supplanted by fermentative bacteria, while at the same time you can not be charged with the crime of starving your little patient to death.

I give the requisite amount of water with the sugar and, so, obviate the necessity of making saline infusions. To the lactose-water, given in frequent small amounts, I add Bulgarian-bacillus cultures, in order to increase the lactic-acid content, thus rendering the intestinal tract an uncomfortable habitat for the infecting organisms.

The principle evolved by Kendall, that "fermentation takes precedence over putrefaction"—the first leading to health processes, the latter, to disease processes—has been of tremendous help to me in my everyday practice.

To put it tersely, then: the patient must be put to bed and kept quiet. Then:

"Clean out." Catharsis: Give calomel in divided doses and follow up with saline laxative. Irrigation: Use physiologic saline solution, ordinarily. If a stimulating effect is called for, use a 2-percent silver-nitrate solution until the washing returns clear. The temperature of the solution should be from 98° to 102° F.—the latter if the body-temperature is subnormal.

"Clean up." Change the disposition of the infecting proteolytic organisms, so that, instead of feeding upon the mucous lining of the intestine, they will become fermentative in nature; do this by feeding lactose in aqueous solution, with Bulgarian bacillus added.

"Keep clean." Avoid any food or other condition that will excite the regeneration of putrefactive organisms. Nourish the patient with food, as indicated above, in small amounts, more diluted, and at frequent intervals. Sometimes irrigate.

Here is a summary of the drugs used by me:

1. Calomel in divided doses until 1 grain is taken.
2. An effervescent magnesium sulphate to follow, for complete catharsis.
3. The well-known zinc and codeine compound, for controlling the symptoms.
4. The sulphocarbolates, for intestinal asepsis.
5. H-M-C modified, internally, to control pain.
6. Aconitine, for reducing the fever.

If called in late, in the stage of dysentery, I also use:

7. Atropine with brucine, for collapse.
8. Solution of nuclein, in full doses, to sustain vitality and encourage resistance.

Other good drugs I have sometimes used, as occasion demanded, are: Bismuth subnitrate, bismuth subgallate, and the well-known Abbott antidiarrheal and dysentery tablets.

PHILIP A. E. SHEPPARD.
Dorchester, Mass.

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[This excellent resume will be found help-

ful, I am sure. Other short papers on this topic will be found on pages 611 and following this issue.—Ed.]

THE MOSQUITO COUNTRY AND THE MOSQUITO INDIAN

I am an old resident of Spanish-American countries. When I came here, I soon discovered that there are more opportunities in this country – for poor men, I mean – than in any place in the world today; and, so, with the intention of investigating, I have buried myself in the Mosquitia, of the Republic of the Honduras, a district almost unknown to the outside world. The result has been far better than my most sanguine expectations allowed me to hope for; in fact, why this country, so close to the United States, has not been invaded by landseekers long ago is a mystery to me.

This Mosquitia, or Mosquito Coast, extends from Truxillo, in Honduras, along the Atlantic Coast as far south as Bluefields, Nicaragua. This part of the Atlantic is better known as the Caribbean Sea, made famous by the crimes and bloodcurdling deeds of the pirates, or buccaneers, Hawkins, Drake, Morgan, and others, who had their strongholds on this coast and nearby islands.

Perhaps the reason for the country being unknown is owing to the fact that the lands adjacent to the sea are to a great extent swampy and that these swamps as well as the lakes in which the coast abounds afford ideal breeding-places for immense swarms of mosquitoes, from which the entire region derives its name. However, penetrating into the interior only a short way, say, twenty miles, all this changes; the mosquitoes becoming less troublesome, until at a distance of about fifty miles from the coast there are hardly any.

The vegetation of this entire region is extremely rich and varied, owing to the fact that it rains during almost every month in the year, which, also, makes the climate cool and extremely pleasant.

Immense mahogany- and cedar-trees, mingled with rubber- and zapotillo-trees (the latter producing the chewing-gum of commerce), together with palms of various kinds and other kinds of trees, many of them yielding the most delicious fruits, compose the immense forests of this region, while everywhere the banks of rivers and creeks are covered with banana-groves planted by the currents during past centuries. Gorgeous orchids, cattleyas, cypripediums, lilies, odontoglossums and other flowering plants swing their beautiful long-stemmed blossoms in the breeze, while all kinds of flowering lianas and vine-begonias and ferns vie with each other in richness of coloring and grace of form. Brilliantly feathered macaws and parrots fill the air with shrill discordant screams, while a hundred varieties of birds delight the senses with their beautiful variegated plumage and yet others with their song. Several families of monkeys make their homes in the treetops, notable among them being a very amusing little creature with a funny white face and cowl.

As for game – talk about game in a rich tropical jungle where the white man has never hunted and the very few Indians, poorly equipped, hunt only sufficient for their larder. Then there are found here the jaguar, called tiger by the settlers; two kinds of mountain-lion, namely, the Leopardus concolor and Leopardus juagarundi (the latter rather a small chap), the Leopardus pardalis, another spotted cat, and a black, very vicious panther about the size of the jaguar; these certainly make life quite interesting. In addition, I could scare up within an hour at least ten tapirs close to the place where now I am writing.

Deer, two varieties, are plentiful, while the herds of wild pigs, together with the wild-growing bananas, furnish the principal food of the Indians. The paca is highly prized for its fine-flavored meat, and it as well as the agouti, is very numerous. Four varieties of pheasant are at home here, all of the penelopines, the biggest of which is the Crax alector, or curasaw, about the size of your American wild turkey. Further, in December, January, and February, the lakes and swamps are full of wild ducks, coming here from colder climes to a country where they have never been hunted; a veritable ducks' paradise, where food is plentiful and enemies are scarce. However, the musquege duck and several smaller kinds are at home here all the year around.

Do not think, though, that I am hunting all the time; for, although, a lover of the great outdoors, I am not what you may call a sportsman, who kills solely because he has the power to do so. I hunt when I need the meat and that I have always in abundance; but, murdering a wild thing just because I meet it, I do not do, unless it be the alligators, which are rather too numerous for my liking. Fish, of course, is plentiful, and turtles in such numbers that my three Indian boatmen

for illustration, yesterday gathered something like 1200 turtle-eggs in less than four hours.

And in this Garden of Eden live the Mosquito Indians. Though there are three tribes of them, not related to each other, yet, they number very few. Coming up this river during seven days' travel I find only four villages of half a dozen huts each, perhaps a hundred individuals altogether. And away from the river the country is entirely deserted and much of it totally unknown even to the native Indians.

As I have said, the different tribes are not related to each other, and each has a language of its own. The Payos occupy the territory around Plantain and the Black rivers and the hills south toward Olancho; the Zambos live along the coast from Evans lagoon, along the Patuco River, Caratasco lagoon and as far as the Guanqui River, which divides the republics of Honduras and of Nicaragua; while the Zumos live along some of the lesser streams emptying into the Caratasco and tributaries of the Guanqui rivers. Some of the Payos speak Spanish, but Zambos and Zumos both speak a sort of Pigeon English, besides their own language.

Living along the coast and the great rivers, these latter tribes – that is, the Zambos and Zumos – came in contact with the pirates, whose policy it was to befriend them, as their impenetrable swamps and forests offered a sure refuge for themselves, and hiding-places for their plunder in case of persecution. They also left their imprint in the blood to such a degree that a pure-blooded Zambo is a rarity, while English names are common, as I meet every day Indians calling themselves Wilson, Thomson, Morrison, Smith, and other like names. There is also an admixture of negro blood, doubtless from slaves that escaped from the pirates; for, the Hawkes as well as Drake added to the noble profession of scuttling ships and cutting throats the lucrative one of slaving.

These Indians are polygamous, and I want to call attention to a peculiar custom of theirs, which is interesting from a medical standpoint. It is this:

The Indian will ask the father of a little 6- or 7-year-old to give her to him as wife. This acceded to, the little girl is presented to him and she is advised of the fact that he is her husband and that she must obey him. She stays with her parents, and her new husband sends part of the product of the chase to her home, as well as bananas and whatever he sees fit to clothe her with. He visits her whenever he feels like it, and, although intercourse may not be attempted, he fondles her genitals and induces her to fondle his. Upon my expatiating on the immorality of this proceeding, I was told that this was done to ripen the child quickly into womanhood and make her strong.

As a matter of fact, I have seen extraordinarily strong women among the Zambos. I have known young mothers 13 or 14 years old to carry a load of 75 pounds for 10 miles, besides their babies. I have never yet seen a nursing mother who did not have a superabundance of milk for her baby, and have seen one young woman, carrying 5 bunches of bananas and the milk dripping from both of her breasts with every step. There are women here over 80 years old who are strong and healthy, although badly wrinkled.

The principal diseases are affections of the skin, a species of eczema and ringworm, with which most of them are afflicted. Besides, I find a species of leukoderma, called in Mexico jiricua. This is thought to be infectious, although I am inclined to the belief that it is transmitted by a culex, a little fly that abounds in the tropics. Sometimes the spots are white and extend over the limbs, body, and even over the face in small patches, which may become confluent. This I find is a subcutaneous variety. The other, in which the spots are black or dark-blue, is cutaneous. Pure whites and negroes seem to be immune, for in thirty years I have never seen an individual of either race who had contracted it.

Sometimes, but rarely, pneumonia is encountered, and more rarely phthisis. Malaria is unknown up here on the Patuco River though prevalent near the seacoast. What kills my Indians, though, is trouble of the digestive apparatus and the intestinal tract, they being tremendous eaters. They have accustomed themselves to do without salt, which is very scarce. Also, sometimes, after a big hunt, they eat meat that is half spoiled, a fact which, in my opinion, also is to be blamed for their skin troubles.

The religion of these people is very rudimentary, and they have no clear conception of what becomes of man's soul after his dis integration. They say that the medicine-man catches the spirit, and puts it away; but where it goes to they do not seem to know or care.

The medicine-man, or suquia, is a great fellow among them. They are divided into two classes, the doctor and the suquia, the latter attending to spiritual matters. The doctor's methods do not materially differ

from those of his fellows in Africa, using native herbs, decoctions, and incantations. So, I will pass them by.

However, the suquia proper, the spiritual medicine-man, is the one who directs all the peoples' affairs, not because he holds any recognized authority, but by working upon their superstition. The suquia sends word that during such and such a month nobody must eat the flesh of this or that animal, and none will eat it. The other day, a courier came from the Caratasco district, where a famous suquia lives, bringing word that on a certain day a tremendous storm would sweep over the country and destroy villages, rice-fields, forests, and game, unless every Indian in the country would send one dollar, in which case he would use his influence to avert the disaster. Every Indian in my district sent in the dollar, and – he did prove himself a tremendously powerful medicine man, indeed, for, in place of the storm, we had a most beautiful day. Was it not worth the dollar? one Indian friend asked me

But it is in a case of death where the great suquia shines. After the body has been buried, it is supposed that the spirit still haunts the place where he used to live, and every day food is served to him just as if the departed were still present. In the evening, the food is thrown away. When I inquired the reason for this, I was told that the nourishment in food was invisible and that the invisible spirit had taken all the nourishment out of it, so, what was left was not any more fit for use. This feeding of the spirit is persisted in until the suquia makes his appearance and the spirit is caught by him and put away.

It takes a great deal of supplication to get the suquia to consent to come. Of course, there are conditions to be complied with. Already the medicine-man has discovered that on a certain day wild-hog meat is bad medicine, but pheasant and deer are good medicine. Domestic chicken is good medicine, sometimes, and sometimes only paca or fish is to be eaten. Several barrels of chicha must be there. The latter consists of the fermented sap of sugar-cane and is very intoxicating.

The day set for the ceremony sees a motley crowd of Indians assembled who already have tasted of the barrels of chicha and are dancing to the sound of the tom-tom until the arrival of the suquia. In the evening, the real ceremony begins, when the suquia enters the dance, chanting in a low voice in the language of the spirits, which none of the bystanders may understand. After a while he will translate his conversation to the present, imparting to the relatives the spirit's last wishes or commands. For instance, the spirit has left on his plantation 100 cocoanut palms, and these must all be felled. The house he had lived in must be torn down. If it is a woman, her sewing-machine (they use sewing machines) must be broken up.

Sometimes, though (with an eye to the food supply), the spirit will not be caught the first night, because he or she was at outs with some member of the family, and then the ceremony is repeated until the food is nearly gone. Then the spirit at last is caught carefully wrapped in a piece of cotton batting and taken by the medicine-man to the grave where it is deposited and admonished to go to the place where spirits belong, and never to return. That ends the ceremony and everybody, especially the relatives, feels relieved of the obligation of feeding the invisible spirit, and the money the suquia carries away with him.

What a chance, here, for missionaries! especially as the Indians greatly wish to become Christians. Already they are imitating the white man by baptizing their children. They do not know the meaning of it, but they will call in anyone to do it for them, preferably a white man, because he says certain words the Indian does not know and which must, certainly, be good medicine. I have told them that I would try and get some holy man to come out and teach them, and they are as pleased as children with the idea.

The government of Doctor Bertran (the president of Honduras) has been trying to lift up these children of nature and in a few places has established schools lately. The teachers tell me that they are surprised at the intelligence of the children, for they learn and absorb wonderfully quickly. But it is not only the intelligence in which they certainly are not lacking, but their respectfulness, their obedience and their orderliness are something wonderful. No harsh word is spoken to them, for none is needed; and although school is conducted in grass huts, they might well be called model schools, considering the quality of the pupils.

The Indians themselves are very docile and amenable to reason, as I had especial occasion to verify yesterday. A young woman, married in the manner already stated, seems to be in love with another young fellow and the other day ran away from her husband – she and another girl, who, however, is not

married. When the two found that they were pursued rather closely, they left their boat and took to the jungle. The pursuers were the irate husband and the two brothers of the girls, who, indignant because of the disgrace brought upon them, intended fully to mete out exemplary punishment to both. The girls escaped, however, and were not heard from anymore, as the jungle is almost impenetrable.

Day before yesterday, I was rather astonished when, like two dusky nymphs, the girls appeared before me, having swum the river, braving the danger of hundreds of hungry alligators, to come to the white man, who would respect and protect them. I gave them some tunos (a cloth made by pounding the bark of certain trees), to cover themselves, and turned them over to my old cook. They told me that they were afraid that their brothers and husband would shoot them like tapir and that they had lost all their extra clothes in the boat, while the rest had been torn off their bodies by the thorns and brambles of the jungle.

Yesterday the pursuers arrived, looking, though, as if they were ready to kill. After having made them eat with me, I told them about woman's feelings and sentiments, and that, by respecting these and conceding to them rights, the white men, who formerly were like they are now, had risen to their present eminence. The men listened very respectfully and were mollified to the extent of promising that the girls should not be punished for their escapade. By the expression of the girls' faces, I knew that they meant what they said. So, I told the girls that, if they thought they were not safe, they might stay, as I could employ them; however, they went along willingly, even happy that their trouble was over.

What a field this for a Christian Mission! How could I manage to get some such of the right kind to come down here? I, with my Indians, am willing to build for them a chapel and to plant at least 10 hectares (25 acres) in cacao, which when bearing, means a steady income of from 3,000 to 10,000 dollars a year. All I ask for in return is, a resting-place for my wife's body and for myself.

This is a *bona fide* offer. There is plenty of room for other decent and clean people with small capital. Land that on account of its fertility would be worth in the United States $500.00 or more per acre can be had for nothing here. There are two ways to obtain land in these parts: one, by purchase from the government at $1.00 per acre for the best, while the other way is by lifelong tenure or rental, for which is paid yearly 10 cents per hectare (2 1-2 acres) as long as it is not cultivated, and 5 cents yearly when cultivated. There is no tax on land. Besides this, the surveyor must be paid at the rate of 20 cents per acre; only, the amount of land must comprise several thousand acres, as otherwise the government surveyor will not come down.

Many crops can be raised that will be good moneymakers, but the best is Cacao theobroma cocoa, I believe you call it. Once planted, there is little work to it, and after it comes into bearing, five years from planting, the income is steady and always increases. Besides the shade-trees which the cacao needs as protection, one might plant mahogany or cedar, which, although not readily marketable, will give an added, and not mean, value to the land itself.

I'd like to get some neighbors, and I am willing to help any honest man or woman all I can. You, doctor, who barely can make out a decent living, here is a chance for you. But not only the doctor, but the friend of the doctor, also, anybody who is clean and decent. Owing to its situation, the Mosquitia has never seen a revolution, and, if I can manage to get only foreign colonists here, there never will be. The country is easy of access, as the rivers are navigable and steamers have access to the mouths of these rivers. Hence we can do without railroads.

So, then, come, friends, and let us form a colony of nice educated people. The greater the number, the more will the land be worth.

I won't have anything to do with a stock company, though. Get up a collectoin for a tired brother who needs a vacation and send him down to investigate and then believe him and follow his advice. If he is a farmer's son, so much the better. Don't wait until corporations take your chance from you. Write me to the address below.

A. R. Hollmann.
In care of Laffite, Alvarez y Cia.
La Ceiba, Sp. Honduras.
Via New Orleans.

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[Doctor Hollmann's account is very interesting and, shall I say tempting? To the lover of nature at her best, such as the doctor describes her handiwork in his beautiful corner of the world, his offer presents all sorts of inducements.'—Ed.]

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

[*Continued from page 546, June issue*]

THE girls themselves, through lack of a knowledge that should be given to all, aggravate their own plight by a sacrifice to good looks. The corset, which is believed to be necessary to preserve a good figure, is laced so as to exert a forced pressure from the waist downward—just where there should be upward support, instead. This is not all, by any means, but there is no need to be more specific. Pretty much everything about the whole situation is wrong.

If ever the application of corrective and preventive measures was wanted, it is here. The shop-girl is a far more deserving object for missionary effort than are the heathen of distant lands. But, in this respect, she has the disadvantage of being close at hand instead of on the other side of the world. I do not mean that the shop-girl requires religious rescue, by exhortation, tract or other means. That has nothing to do with those needs that cry out for help as a part of the progress of the hour, in these days of enlightenment and aggressive hygiene. The moral aspects may be left to other hands; the physical, however, are open to the world and should be cared for, not alone because of the present, but for the sake of future generations; and no broad measure of any kind is complete which does not take into account another, and larger, population, marching now toward us irresistibly out of the nearer depths of time.

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I cannot too strongly advise and commend all who have, at least, the health and general good of the whole public at heart, now and to come, to communicate with the officials of that society. The work and the way to do this will be clearly pointed out.

Human possibility holds out no higher or more worthy thing than helping the helpless or showing the unhelped how to help themselves. Those who would convert sympathy and altruistic impulse into telling action have here their chance.

In order to avoid the danger of excessive fatigue, sleep is indispensable, but there are other ways of securing rest. Some temperaments derive much benefit from occasional periods of complete idleness, other temperaments more nervous and restless get no satisfaction from being idle. Continuous application to one form of work is much more fatiguing to nerve and muscle than varied work. I have seen business men and students come to the gymnasium, all fagged out from five or six hours of mental work, get into various forms of muscular work with zest and energy. In a model boys' school famous for the rapid progress of its students, the boys alternate periods of study with short periods of active play. The principle involved here is that, by changing from mental to physical work or from one form of mental work to another, the individual is able to accomplish a larger amount of work with less fatigue than by working continually at the same kind of work.

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One of the most salient characteristics of modern life is, the increasing amount of leisure time for recreation made possible by the shortening of working-hours. The advent of specialization, labor-saving devices, the telephone, telegraph, and automobile make it possible for all classes of people to do more work in less time than before. But work is more intensive and consequently more fatiguing. The result of these changes is, a greater need for relaxation and more time available for recreation and pleasure. The proper use of leisure time has much to do with health, efficiency, and happiness.

Play is generally considered as belonging to childhood only, but it is really a vital part of life at all ages. The need for play and recreation is satisfied in various ways. Sedentary workers derive the greatest benefit from outdoor physical recreation, such as golf, tennis, fishing, hunting, collecting, and photography. Leisurely reading of the treasure stories of literature, music, and parlor

games also afford a certain amount of mental relaxation to daily work.

The outdoor avocation or hobby has more in its favor than any other. It is readily procurable in "doses" suitable to any temper or temperament and adjustable likewise to the size of any pocketbook. The essential point with most persons is to make a beginning and acquire a desire for acquaintance with the birds, familiarity with the procession of the wild flowers or the discovery of beautiful bits of scenery that may be reproduced by the camera.

Many people who realize the importance of outdoor recreation neglect it, because they have not formed the habit of making use of weekends and holidays for this purpose. There are innumerable ways of getting the benefit of outdoor recreation while leading an active city life. Even in New York City, where the conditions are perhaps the least favorable for getting out into the country easily, the problem is solved in various ways.

There is a group of professional and business men who are organized in a fresh-air club; they make up a schedule of walking-trips during the autumn and spring and skating parties during the winter. They meet at the railroad-station Saturday afternoons, ride out ten or twenty miles from the city, walk five or ten miles across the country or up a mountain, spend the night at some country inn, walk ten or twenty miles on Sunday, and return Sunday evening, invigorated and ready for another week of hard work.

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Another group of friends go off in a motor boat, either up the Hudson River, down the Bay or into Long Island Sound, eat and sleep aboard and return Sunday evening. Two teachers of my acquaintance spend Saturday afternoon and Sunday canoeing up the Hudson and camping out at some of the many beautiful spots along the palisades, between New York and Peekskill.

In the vicinity of every city, opportunities for physical recreation are available in the open country, woods, hills, lake or stream. A very essential point to remember in this connection is, that frequent periods of outdoor physical recreation are far more beneficial to persons working under high pressure than one whole month's vacation following eleven months of continuous application.

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Frequent outings in the country are not only beneficial to physical health; the effect upon the mind is at least equally good. The mind is rested and refreshed by a change of surroundings, seeing new faces, eating different food, sleeping in a strange bed. The worries and troubles are forgotten and the mind regains its elasticity and freshness for clear thinking and efficient work.

Weekends and occasional holidays serve a good purpose, but most of the people need a longer period of rest and vacation about once a year. Those who disregard the need for an annual vacation and work continuously year after year furnish the recruits for nerve-specialists and sanitariums. A story in the newspaper, describing the strenuous life of a young man twenty years old, who, by continuous application without any vacation, had earned his election to the presidency of a large New York bank, brought him a large number of circulars from sanitariums for neurasthenics. The rapid development of the summer-vacation idea in recent years is the natural result of the increasing demand for intensive mental application in business and professional life. The judicious use of the summer vacation serves to restore the individual to a normal physical and mental state after months of more or less unhygienic living.

Camping, cruising, touring, and tramping afford the largest amount of recreation and recuperation to tired-out mental workers.

Summer-hotel life, with its idleness, rich food, and much dressing, also strenuous traveling and sight-seeing are not a desirable form of vacation for sedentary workers. A simple, active outdoor life in the country or on the water is far better to restore vitality, revive ideals, and help the individual to live a broad, happy, and effective life.

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Now, while Europe is at war and the United States is talking of preparedness, it is well to remember that the real fight of the world is for health. This is a struggle not confined to any one nation. Disease is a common foe. It is a humanitarian motive, as well as a scientific one, that should animate physicians in all their deliberations.

There is in human nature a desire for conquest that ever has been a constant driving force in human endeavor. The soldier strives to overcome an attacking foe. The civil engineer conquers the hard conditions he meets in driving a tunnel through rocky walls. The inventor and the scientific investigator wrest away from nature its secrets. The moral reformer and the theologian seek the subjugation of moral evils. And it is the

duty of the physician to attack the most subtle of all foes, the minute and elusive causes of diseases; and every such conquest gives inspiration for further battle in the world's fight for health.

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It is our duty as physicians to break down the barriers of ignorance and prejudice that are ever undesirable deterrents of progress in social welfare. The common purpose to conquer disease and to make human life safer, healthier, and happier is a factor in bringing peace in the world, because the nations of the world become banded together in common sympathies and endeavors.

We must sympathize with the sufferings of mankind. Unless we think humanely, we shall not be able to give our best to this work. This conception of our duty indicates the passionate devotion that has ever been the driving force of those who undertake great things for human welfare, whether in the name of religion or of science.

The problems of health and hygiene are largely social. They are the results of the close social living-relations of humanity. Man is gregarious and his desire for companionship is stronger than his power to protect himself from the undesirable results of living at too close a range. In developing these gregarious habits, society has rarely asked itself whither these habits are taking it. Disease, it has been assumed, as a matter of course, must be cured, if possible, but, that society has in itself the power to prevent much of disease, by repenting of its past slothfulness and *laissez faire* attitude and by organizing on lines of prevention and protection, is a realization of comparatively recent origin.

One task of the medical profession is, to overcome the inertia of years that has developed by inattention to the laws of health, and to awaken a sense of individual responsibility. A public understanding, growing in its intelligence and moral earnestness, must be a prime factor in achieving success. It is not solely a question for specialists—the interest of the people and their cooperation are necessary to this end.

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In nearly every large city, there are now public-welfare communities or societies that are mainly educational. Much work is being done toward reducing infant mortality. Of great benefit is the teaching of mothers the right way to modify or prepare nursery-milk for infant consumption and to make them realize the importance of maternal nursing, the greater chance for life that the breast-fed baby of the poor woman has over the child of the well-to-do when nourished in any other way but the natural one.

Mothers must be shown the important and wonderful reduction in infant mortality that can be secured through properly conducted attention to child hygiene, and the tremendous and national significance of this fact. That the results which can be secured are well established and certain, is shown by such work wherever it has been undertaken. It is the duty of municipalities to take over the work, as only by the public and city-wide administration of this problem can the fullest results and permanent benefits be secured. Private funds should be used only to show the way.

The New York City board of health spends $350,000 a year on milk-stations and on infant hygiene, which is looked after at some fifty stations. Chicago, I believe, and Cleveland, Milwaukee, and perhaps other cities have special child-hygiene departments in connection with the board of health.

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There are certain evils which are a more serious menace to the welfare of communities than are typhoid fever or other contagious diseases. What has been but too aptly termed the social evil has long been the theme of earnest consideration on the part of men and women whose aim has been the purification of the moral atmosphere of their respective communities. The best-intentioned people differ radically with regard to the methods to be pursued.

The Municipal League of San Francisco, the offspring of the clearing of political atmosphere which had cursed that beautiful city under Schmitz and Ruef, has won golden opinions for its clearsighted policy on many important municipal problems. In accordance with the modern principle that vice and crime are manifestations of disease or degeneracy of mind and body, either inherited or acquired – chiefly the former – the league has set an example worthy of thorough investigation by philanthropists and municipalities.

A plan of action has been evolved under which the unfortunate victims of vice are treated precisely as are those having smallpox, diphtheria or other contagious disease. Not only are their physical ailments treated in the clinic, but their moral infirmity receives kindly and properly directed attention. The source of the malady is sought in the patient's environment, and an earnest and practical attempt is made to remove the cause, as is

done by health-officers in the case of, for instance, measles or scarlet-fever. A close study of the work done along these lines by the municipal league mentioned doubtless would furnish much valuable information, on this important hygiene subject, to philanthropists and municipalities contemplating similar action.

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Not long ago, an English physician predicted that the face of the average Englishman would eventually become of a criminal type. This, he held, would follow through the decline of the birth rate among the better classes and the accelerated reproduction of the lower types. I have read other gloomy prophecies of national degeneracy through the operation of heredity and I recently came across an issue of *The Quarterly Review*, in which a Doctor Tregold makes this prognostication:

"The time will certainly come when every state, in its own interest, will have to exercise some control over the condition, not only of its present, but of its future citizens. If this control is not exercised and if social science does not keep pace with humanitarian sentiment and the undoubted tendencies which exist to aid the survival of the degenerate, the decay and extinction of the nation that neglects it is inevitable."

Many people are of the opinion that alcoholism, feeblemindedness, and like ills are congenital defects, and the remedy is believed to lie in preventing reproduction by those afflicted with inherent degeneracy.

But all reckless predictions regarding steady national deterioration into a degenerative type may be safely discarded. Much foolishness is uttered in the name of science. As to the relative parts played by heredity and by evil social conditions in the production of the mentally and physically unfit, there is no clear line of distinction. One is interrelated with the other; and undoubtedly no action in respect to either would, if taken separately, reach to the vital center of the proplem. Obviously any general system of prohibiting reproduction by defective men and women would be of little use as a preventive of degeneracy or unfitness as long as bad housing, neglect, poverty, the drink-evil, and many other contributions to human breakdowns continue to operate.

Only pedants ignore the fact that no real elevation of race standards can take place without a corresponding betterment of social conditions for the masses. As a matter of duty, the state ought to supervise the care of all its weak and defective citizens, and its responsibility to them could easily be made to justify their segregation in colonies where reproduction of their kind would be impossible. But this is a humanitarian matter, not one of eugenics. An ideal society is one in which there are no weak members, no degenerates, and no mental deficients. But such an ideality also presupposes a society in which ignorance, poverty, crime, and low morality are absent.

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For over ten years I have had much to do with hydrotherapy. I have some very decided opinions on the effects of baths, these being based upon close observation and quite an extensive experience. But every time I listen to a bunch of wouldbe authorities on this subject I am reminded that knowledge is elusive. It is exceptional when the essayist escapes without causing an argument or being flatly contradicted.

It is not given to common mortals to comprehend the merits of these questions, much less to take sides in the inevitable controversy. We may fail to grasp the importance of such a thrilling performance as that of the bacteriologist who claims to have reproduced malaria-germs to the fourth generation, as one would raise chickens. We may be duly shocked by such "data" offered by the sanitarians, showing that "probably" fifteen million babies die in their first year of life; that the world's infant-mortality rate is one every other second. But, after a recent experience of mine, I should hesitate to enter into a discussion of what to do about it. If the "authorities" cannot agree, an ordinary doctor, such as I am, need not deplore his seemingly feeble intelligence.

Curiously enough, one subject with which many of us profess tolerable familiarity perplexes the world's hygienists as much as anything. That is baths. What is a bath? "Bathing may be defined as the act of applying water to the skin," we are informed by one versed in hydrotherapy. After this, we should feel sure of comprehending what follows. Unfortunately for this confidence, the bath, physiologically speaking, by no means is a simple proposition; or, if it is, the scientists won't have it so. When water is applied to the skin, what happens? A large number of learned doctors – many of them authors of worldwide eminence – debated this question excitedly at a certain meeting. It appeared that nobody quite knew; or, if anybody claimed to know, somebody else was prepared to take the negative.

Among the Books

NEW EDITIONS OF OLD BOOKS

When new editions of well-known textbooks are published, it hardly seems necessary to do more than to call attention to the fact, unless the new editions present some important changes. Accordingly, we acknowledge in the following a number of volumes, the value of which is attested by the fact that new editions are called for.

"Orthopedic Surgery." By Edward H. Bradford and Robert W. Lovett. Fifth edition. New York: William Wood & Co. 1915. Price $3.75, net.

"Textbook of Nervous Diseases; for the Use of Students and Practitioners of Medicine." By Charles L. Dana. Eighth edition. New York: William Wood & Co. 1915. Price $4.25, net.

"Medical Lectures and Clinical Aphorisms." By Samuel Gee. With Recollections by J. Wickham Legg. Fourth edition. London: Oxford Medical Publications. 1915. Price $2.00.

These delightful wanderings in the highways and bypaths of medicine and of medical history are decidedly worthwhile.

"Sexual Impotence." By Victor G. Vecki. Fifth edition, enlarged. Philadelphia: The W. B. Saunders Company. 1915. Price $2.25, net.

"Venereal Diseases: A Manual for Students and Practitioners." By James R. Hayden. Fourth edition, thoroughly revised. Philadelphia: Lea & Febiger. 1916. Price $2.50.

"Diseases of the Stomach and Upper Alimentary Tract." By Anthony Bassler. Third edition, revised and enlarged. Philadelphia: The F. A. Davis Company. 1916. Price $6.00.

"Lecture Course to Physicians." By George Starr White. Fifth edition. Los Angeles: Published by the author. 1916.

"Treatise on the Principles and Practice of Medicine." By Arthur R. Edwards. Third edition, thoroughly revised. Philadelphia: Lea & Febiger. 1916. Price $6.00.

"Practical Physiological Chemistry." A book designed for use in courses in practical physiological chemistry in schools of medicine and of science. By Philip B. Hawk. Fifth edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co. 1916. Price $2.50.

"Reference Handbook of the Medical Sciences." Embracing the entire range of scientific and practical medicine and allied science. By various writers. Third edition, completely revised and rewritten. Edited by Thomas L. Stedman. Volume VI. New York: William Wood & Co. 1916. Price: cloth, $7.00; leather, $8.00; half morocco, $9.00.

This reference handbook will be complete in eight volumes.

SOME BOOKS FOR THE FAMILY

Here is a small list of books that are intended fully as much for intelligent mothers as for physicians.

"What Every Mother Should Know"—about her infants and young children. By Ch. G. Kerley. New York: P. B. Hoeber. 1915. Price 35 cents.

This little book may be placed in the hands of mothers of moderate means and is intended to provide them with concise, readily understood and practical instructions for the care of their little ones.

"Infant Health: A Manual for District Visitors, Nurses, and Mothers." By J. (Shawnet) C. MacMillan. Oxford Medical Manuals. London. 1915. Price 75 cents.

William Osler says in his foreword to this "Manual" that it is full of sound knowledge and common sense and could well be put into the hands of intelligent mothers.

"Your Baby: A Guide for Young Mothers." By Edith B. Lowry. Chicago: Forbes & Co. 1915. Price $1.00.

On the principle that the education and care of the child should begin generations before its birth, the author does the best she can, and, so, starts with the present generation, by endeavoring to impress upon the mind of the young wife the great importance of training her own self for motherhood and also of beginning to train her baby as soon as she becomes aware of the fact that she is to become a mother. The necessity of medical care during pregnancy as well as after delivery very properly is insisted upon, and

almost one-half of the book is devoted to what one might designate as the preliminaries. Concerning the care of the baby itself, the author attempts to teach the doctrine of applying common sense and of exercising moderation. This little volume is certain to prove of service to young women; and to old women, too—if there are any.

PATERSON: "EMBRYOLOGY"

A Manual of Embryology. By A. Melville Paterson, M. D., F. R. C. S. Oxford Medical Publications. London: 1915. Price $2.75.

The study of human anatomy is undoubtedly made more interesting by a concomitant investigation of comparative anatomy and embryology; indeed, the author is justified in claiming that most of the problems of human anatomy can be solved by the aid of these subordinate sciences. An exact study of human anatomy, which is prerequisite more particularly for the surgeon, is therefore properly supplemented and facilitated by that of embryology. The author presents the salient facts of this science in the volume before us.

KELSON: "DISEASES OF THE THROAT, NOSE AND EAR"

Diseases of the Throat, Nose and Ear. By William H. Kelson, M. D., B. S., F. R. C. S. (Eng.). Oxford Medical Publications. London: 1915. Price $3.00.

This book has been written for general practitioners and senior students, and therefore contains full details regarding procedures such as the doctor himself usually undertakes, e. g. the removal of cerumen; but to those which he generally passes on to the specialist, such as the mastoid operation, only brief reference is made. The book is fully illustrated.

PAGE: "AUTOMOBILE REPAIRING MADE EASY"

Automobile repairing made easy. Shop methods, equipments and processes. A Complete Treatise Explaining Approved Methods of Repairing All Parts of All Types of Gasoline Automobiles. Showing all the Latest Developments, based on a Wide Actual Repair Experience. By Victor W. Pagé, M. W. New York: The Normal W. Henley Publishing Company. 1915. Price $3.00.

Being entirely innocent of the slightest knowledge of automobiles and similar contrivances for making haste (slowly?), the reviewer "passes," contenting himself to give the full title of the book. The work itself seems to be just as full as the title, to judge from the 1033 pages of text and 27 pages of index.

ASCH: "TREATMENT OF GONORRHEA"

Twelve Lectures on the Modern Treatment of Gonorrhea in the Male. By Dr. P. Asch (Strasbourg). Translated and Annotated by Faxton E. Gardner, M. D. Illustrated. New York: The Rebman Company. 1915. Price $1.00.

This small, but practical treatise on gonorrhea in the male is of interest because it presents the teachings of the French and German schools, and because the translator has been at pains to point out the different views of American authorities, wherever it is of value to do so. The treatment advocated by the author is that which he has found most useful in a personal experience extending over fifteen years of special practice.

The translation is well done, throughout, and the reviewer knows from strenuous experience what it means to translate scientific treatises; nevertheless occasional evidences of the original construction persist such as "the therein contained gonococci" or "I prefer to have the patient inject too little than too much," and a few similar passages in which the task of translation was evidently hastened. This does not however, detract from the intrinsic merit of the work.

BERKELEY AND BONNEY: "GYNECOLOGY"

A Guide to Gynecology in General Practice. By Comyns Berkeley, M. A., M. D., M. C. (Cantab.), F. R. C. P. and Victor Bonney, M. S., M. D., B. Sc. (Lond.), F. R. C. S. (Engl.), M. R. C. P. (Lond.). Oxford Medical Publications. London, 1915. Price, $6.50.

This book is written for the practitioner, to assist him in supplementing the academic knowledge of the subject acquired during studentship with a practical understanding of its clinical intricacies. The subject-matter is arranged in five parts, the first of which deals with the examination of the patient, while the second and third parts are concerned with the nature and significance of the symptoms elicited on examination, and with their interpretation. The reviewer is impressed with the practical and serviceable

manner in which the different symptoms are discussed and elucidated. Part IV is devoted to the treatment of gynecological conditions, and it should be remarked that the authors have deliberately omitted all details of operative technique from this part, referring for information on surgical gynecology to textbooks on the subject.

A valuable addition to this work is found in Part V, in which the medicolegal aspects of gynecology are subjected to a sufficiently detailed investigation to prove of service to the practitioner.

The illustrations are well drawn, and mechanically the volume is in conformity with the excellency usually shown in the publications of the Oxford Press.

CAREY: "BACTERIOLOGY FOR NURSES"

An Introduction to Bacteriology for Nurses. By Harry W. Carey, A. B., M. D. Philadelphia: The F. A. Davis Company. Price $1.00.

At the present day, the need of a certain amount of information in bacteriology for nurses is self-evident. The difficulty is only to determine how much of this information is to be given. The author has prepared the present volume on the basis of his notes for lectures given, on the subject, during the last eight years in teaching the nurses of the Samaritan Hospital Training School. He presents the principles of bacteriology in simple and clear language. Practical applications are made, of course, in so far as the subject bears upon the clinical work of the nurse. A useful glossary of technical terms is appended.

ROBINSON: "LIMITATION OF OFFSPRING"

Fewer and Better Babies, or the Limitation of Offspring by the Prevention of Conception; the enormous benefit of the practice to the individual, society and the race; pointed out and all objections answered. By William J. Robinson, M. D. With an introduction by A. Jacobi, M. D., LL. D. New York City: The Critic and Guide Company. 1915. Price $1.00.

With this somewhat lengthy title, the author announces his work which forms, as it were, a culmination and climax of his persistent agitation and literary activity for many years past. Not that Doctor Robinson limits his literary contributions to the subject dealt with in the present volumn; but he is well known to our readers as a fearless advocate of the principles laid down in it.

The reviewer does not feel justified in entering at length into the subject-matter of the book in this place, he hopes to do so in another connection. On the other hand, he does not believe it right to withhold announcement of this important book until a more convenient time. The subject is too urgent for that. So it may suffice for the present to inform our readers that this volume from Doctor Robinson's pen has appeared. The author is a forceful and trenchant writer, and one writing with authority on the topics connected with his special field of work. Let "the family" read his book.

STERN: "BLOODLETTING"

The Theory and Practice of Bloodletting. By Heinrich Stern, M. D., LL. D., New York: The Rebman Company. 1915. Price $2.50.

Whoever has devoted some attention to the periodical literature on bloodletting knows that in the last ten years the number of advocates of this remedial procedure has increased and that of its opponents decreased. The revival of bloodletting for therapeutic purposes is due merely to a better understanding of the functional changes following the operation, to a closer clinical observation of the cases subjected to it, and to the fact that the efficacy of this method over many other measures has frequently been demonstrated and recognized. The author predicts that bloodletting, the oldest of man's remedies, will regain its full citizenship in the realm of therapeutics.

MITCHELL: "HOSPITALS AND THE LAW"

Hospitals and the Law. By Edwin Valentine Mitchell, LL.B. New York: The Rebman Company. 1915. Price $1.75.

The purpose of this volume is, to supply a short analysis of the general propositions of law relating to health institutions, and to make it readily comprehensible to those who are professionally or otherwise interested in such establishments. The author discusses concisely the rights and responsibilities of institutions, of their officials and attendants; also the principles regulating their administration. Then he takes up the questions of foundation and organization, of remuneration and support, and the like, and finally deals with the subject of military and naval hospitals. A useful volume.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6213.—"Cerebral Anemia and Arteriosclerosis." J. A., Ontario, asks for our opinion and advice concerning the case of a farmer, 77 years of age, who suffers from periodical "spells" of unconsciousness, associated with distress, flushing of face, and nervousness. The blood pressure is 180, systolic, 70 diastolic. There is a mitral systolic murmur, transmitted to the right and to the center of the sternum. His pulse is 78, regular, usually of considerable tension. He complains of a peculiar feeling in the head, and of spells of dizziness. The doctor suspected cerebral hemorrhage and treated him accordingly. The 24-hours' amount of urine voided is only 587 Cc.

The report from our laboratory shows that the urine has a specific gravity of 1.033; total solids, 45 grams; total urea, 18 grams; also that it contains a few renal cells, a few crystals of calcium oxalate, and very many colon-bacilli.

We believe that this man suffers from attacks of cerebral anemia coupled with some arteriosclerosis; which is not unusual in a man 77 years of age. The blood pressure does not suggest cerebral hemorrhage, being too low for this. With a tendency to hardening of the arteries, associated with a mitral insufficiency, attacks of cerebral anemia would not be astonishing. It will probably be found that these attacks occur more particularly after indiscretions in diet and the patient should be especially warned against committing such.

After full elimination has been established, it must be maintained, more particularly with respect to the urea output. Regular habits of eating and moderation in work are indispensable. We should give this man boldine hydrobromide, say, three granules of 1:61 grains each, three times daily. A cardiac tonic, preferably strophanthin, will be of value for its action on the heart, while veratrine will aid in establishing the circulatory equilibrium. If strophanthin does not produce results, we should advise digitalis (as in the form of digipoten) or, even better, the following combination: digitalin, gr. 1-128; strophanthin, gr. 1-5000; strychnine sulphate, gr. 1-500; sparteine sulphate, gr. 1-64; glonoin, gr. 1-500; cactoid, gr. 1-128. Such a dose (in tablet) to be taken every four or six hours.

QUERY 6214.—"Traumatic Inguinal Hernia." W. F. S., Indiana, submits the history of a case of inguinal hernia and asks for expressions of opinion and for reports of similar cases. The Doctor writes:

"A man of 47 years, well preserved, occupied in the collection and reporting of local commercial retail conditions, came into my office and said that he had just come from the bath-house, where, after undressing and starting for the swimming-pool, he slid his right hand along the groin, to cover the privates (a habit, quite common, born of false modesty), and then discovered a large, soft tumor, but felt no pain connected with it. He wanted to know what it was and asked me to give any needed attention. He was unable to recall any incident that might have produced the injury. Following my advice, he returned on the morrow for further treatment, and then gave the following history.

"The man had been annoyed by retention of his urine and was taking treatments by a local surgeon, who had diagnosed stricture of the neck of the bladder. At each treatment, a curved steel sound had been introduced into the bladder and rotated, with application of leverage, the tip of the sound touching at different portions of the bladder-wall. During one treatment, this use of the sound caused extreme pain in the right inguinal region, and soreness followed. The man was assured by the physician that it

meant nothing serious and that the pain would soon disappear. At the succeeding treatments, he had refused to allow the employment of leverage, because of the pain produced. His surgeon at that time had left the city for a short stay, so that, alarmed at his discovery of the tumor in the groin, he came to me for advice.

"All this was told without any perceptible shadow of ill feeling toward his medical attendant, nor has he evinced any such sentiment at any time since. The man ended by asking me the question which I am making mine, also; namely:

"'Could the bladder-wall have been carried into the inguinal ring by the sound and cause sufficient injury to produce hernia, yet, not be ruptured?'

"I told him I had never heard or read of a hernia being produced in such a manner. I have not found any report or essay suggesting such a probability as a cause of hernias; still, I do believe that it was the cause in this instance."

This problem was submitted to Dr. Benjamin H. Breakstone, of Chicago, who very kindly submitted the following reply:

"With reference to the inquiry of your correspondent, the data supplied are not sufficient for forming any definite opinion. However, from what is told, I am not satisfied that the patient has inguinal hernia at all. If the swelling is owing to injury from the bladder, he certainly should have bladder symptoms. I am satisfied that the manipulations of the bladder had nothing to do with the cause of this supposititious hernia; for, if sufficient force was employed to produce a hernia there, there undoubtedly would be severe bladder symptoms, while the bladder-wall would have been injured sufficiently to give rise to a leakage of urine, either into the abdomen or into the fascia.

"Many hernias come on in an imperceptible manner, especially in patients who are run down and weak or who suffer from asthma or cough, and then the abnormality is only accidentally discovered. Quite frequently a hernia will be produced during excitement or during physical exertion, and then is not discovered accidentally until some time later."

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Query 6215.—"Cyanide-Poisoning." H. M., Ontario, Canada, has a patient, a young man working in a cyanide-mill, with good previous health, who for the last three months has been complaining of general malaise, furred tongue, slight constipation, and dryness of the throat. His lungs are not affected; his heart is normal, but beats 110 per minute; his temperature registers 101 degrees. He complains of a vague pain in the chest and thighs and of general weakness of the limbs; he has lost weight. Previous venereal diseases are denied. The Doctor suspects cyanide-poisoning, but has not been able to relieve the symptoms or to arrest the trouble.

We submitted the Doctor's query to Dr Alice Hamilton, of Chicago, who has specialized on occupational poisonings, and she kindly informs us as follows:

"The symptoms of true cyanide-poisoning are rather vague. Von Jaksch, in his work, 'Die Vergiftungen,' names itching skin, headache, weariness, slow pulse, vomiting, salivation, acute pharyngitis, albuminuria.

"But the illness of workers in cyanide-mills is more likely, I believe, to be arsenical poisoning. Both the ore and the zinc used in the extraction-process may contain arsenic as an impurity. The best article on the occurrence of arsenical poisoning among these men is by Noble Wiley Jones, in *The Journal of the American Medical Association*, 1907, vol. xlvii, page 1099."

As a first measure, it undoubtedly will be necessary for this patient to leave the cyanide mills. If the idea should prove correct that he is really suffering from arsenical poisoning, the accepted treatment should be instituted. After recovery, he will have to engage in another occupation.

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Query 6216.—S. B., South Carolina, asks for the "best treatment" for exophthalmic goiter.

The very best treatment for exophthalmic goiter with which I am familiar is that advocated by the late Doctor Forchheimer, of Cincinnati, as described in his book entitled "Prophylaxis and Treatment." The principal remedy employed by him is quinine hydrobromide, 5 grains taken four times daily. "Under this treatment," quoting Forchheimer, "the tachycardia improves, the pulse frequently coming down, from 130 or 140, to 80 or 90, in forty-eight hours; second, the thyroid gland diminishes in size, by measurement; thirdly, the tremor and exophthalmos are the last symptoms to leave.

Forchheimer recommends, in association with the quinine salt, ergot in some form, for its steadying effect upon the circulation. These two remedies, taken together for a considerable period—one month, two months, or more—will control a very large percentage of these cases. You understand, of course, that it will not cure them all, and occasionally

it may fail altogether, although in this writer's experience benefit usually follows in the majority of instances.

In association with the quinine treatment, Dr. Israel Bram (*N. Y. Med. Jour.*, Nov. 27, 1915) also recommends lecithin, which stimulates the resisting power of the tissues. According to that writer, this latter remedy is especially indicated when the nervous symptoms are pronounced. He asserts that it will control the tremor and excitability even more effectually than do the bromides. The only contraindication will be when it upsets the digestive function, which it is but very rarely likely to do. The diet, of course, must be well selected and generous.

In this connection, read the account of the work of Watson printed on page 605, this issue. Doctor Watson is using injections of quinine and urea hydrochloride in these cases, and with quite remarkable results.

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QUERY 6217. "Nephrolithiasis" M. W. Y., Indiana sends in a specimen of urine, a part of 3 1.2 pints passed in twenty four hours, from a man forty years old who passes gravel and blood every day. The man has been ill for five years, but discharged gravel only for a few months.

The urine is highly alkaline; there is much crystallization, and symptoms of intestinal fermentation exist. The patient probably suffers from nephrolithiasis.

In this case an x ray examination should be made at the earliest possible time, in order to obtain more exact information on the situation of the gravel. Hexamethylenamine, 3 grains, with arbutin, 1-2 grain and ammonium benzoate 3 grains, should be given every three or four hours, and dilute nitromuriatic acid administered with meals. The intestinal fermentation should be controlled by tablets containing bilein, strychnine arsenate, pancreatin, sodium sulphocarbolate and sodium carbonate, one hour after eating.

Thorough intestinal lavage, and high enemata of decinormal salt solution should be administered every second or third night, before retiring. As soon as the fermentation is controlled, tablets of the Bulgaric bacillus are advised, three or four tablets, chewed and swallowed with a little milk, on an empty stomach, three times daily; or better still, one third of a tube of bacillus-bulgaricus bouillon, morning, noon and night.

The diet should consist of cereals, fruits (ripe or well cooked), and vegetables of an easily digestible character; eggs, skimmed milk, buttermilk; a small quantity of red meat may be allowed daily or every other day. Veal, pork, smoked meats, smoked fish, pastry, spiced foods, rich soups, made dishes, coffee and alcoholic beverages must be prohibited.

Cases of this kind require careful study, and the treatment must be varied from time to time to meet the changing conditions. Of course, the urine should be submitted for examination periodically, and it will be well to send specimens of the gravel that is passed.

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QUERY 6218.—"Marasmus?" H. C. H., Indiana, describes the case of a female child, twenty months old, whose facial expression is idiotic. It is wabbly in neck; legs the size of those of a six months infant. Bowels are regular and of good appearance; color and quantity normal. The child eats well, is not cross, sleeps well. "Looks like marasmus."

The clinical data submitted are, of course, quite insufficient to justify a definite diagnosis, or even tentative therapeutic suggestions. The case does not look like one of true marasmus, rather like one of arrested development, possibly like rickets. It would be necessary to know the family history, and to be informed whether there is any specific taint in the family. Was labor natural or instrumental? Has the mother borne healthy children? How is the child fed, and how long has this abnormal condition been observed?

It is possible that careful dieting, and the administration of Bulgarian bacillus tablets, crushed, will prove beneficial. The digestion should be facilitated by small doses of diastase and papain; and, in addition, nuclein, also lecithin, and, possibly, careful tentative treatment with thyroid substance may be of benefit. It must not be forgotten that, while the case is probably one of malnutrition, or of faulty nutrition, or at least while it is in part due to such a condition, there are many related points which should be investigated in order to clear it up.

QUERY 6219.—"Vicarious Menstruation Versus Hemoptysis." W. F. S., Texas, writes about a woman whose menses fail to show up for several times in succession, while there is hemorrhage from the thoracic region.

From the very few points presented in this communication, it is not possible to say whether or not the doctor is dealing with a case of vicarious menstruation, but we are inclined to suspect a clear case of hemoptysis

due to pulmonary tuberculosis; the cessation of the menses being, itself, the result of the tuberculous disease. If we are correct, and the amenorrhea is actually due to tuberculosis, it would be worse than useless to attempt the treatment of the failing menstruation.

When the hemorrhage occurs "from the thoracic region," emetine hydrochloride may be administered for its direct hemostatic action, and it may even exert a beneficial effect upon the tuberculous process; at least we are led to infer this possibility from correspondence with several physicians. But we confess that we cannot quite see the modus operandi of such an action of emetine. In hemoptysis, however, its effect is clear and undoubted.

In the case in hand, the doctor will have to examine the patient's thoracic organs for evidences of disease. In the presence of pulmonary tuberculosis, supporting treatment is, of course, indicated primarily, and then such measures of symptomatic therapy are called for as may be indicated by the individual symptoms.

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QUERY 6220.—"Obscure Affection of the Kidney." H. L. W., Wisconsin, describes the case of a young man, thin, apparently in good health except for periods of pain over the right kidney, sometimes radiating across the right side of the abdomen. Occasionally this is severe enough to cause the patient to assume the recumbent position. The pain develops at irregular periods, frequently after starting work, and has existed, intermittently, for several years. Complete uranalyses and x-ray examinations were negative in results. The affection has been held to be of rheumatic origin, and alternating hot and cold baths have given temporary relief. There is a tenderness in the right side of the spine, about one inch above the pelvis; pressure on the twelfth rib causes some pain; this rib is separated from the eleventh more widely on the right than on the left side. Strapping the right side has, previously, been of assistance. The doctor suspects inflammation in the right kidney, possibly also renal calculus. He adds that laying the patient on the face and manipulating the region, causes the pain to cease; later on it recurs, when he moves about.

In this case, it is just possible that there is a subluxation; on the other hand, the pain may be due to the presence of a small calculus in the renal pelvis. In either case the x-ray examination should be repeated and may prove informing. Displacement of the affected kidney, which may or may not contain a concretion, must be thought of, particularly since the pain ceases on certain kinds of manipulation and recurs when the upright position is assumed. In view of the fact that this patient has had the advantage of the best obtainable advice in the country, we express ourselves as loth to offer more than suggestions. We should wish to know, however, the results of a complete uranalysis, repeated several times, the specimens being voided before, during and after the attacks of pain, also in painless intervals. Further, an exact examination of the abdominal organs, including the spleen and liver, may be of assistance, in spite of the fact that the pain is referred to the right side. The possibility of a tender appendix must be considered. Altogether, there are so many difficulties in the way of a "long-distance" diagnosis, that we do not dare to venture it.

On general principles the digestive process should receive attention, and free elimination be secured. Definite treatment for a case of this sort naturally is dependent upon a clear diagnosis, and we must, therefore, refrain from offering any therapeutic suggestions.

QUERY 6221.—"Obstinate Vomiting of Children." J. W. S., North Carolina, writes about a little boy, three years old, an orphan, with good family history, who is afflicted with frequent vomiting. Water comes back ten or fifteen minutes after ingestion. There is no appetite and all food refuses to "stick." The doctor gives the white of one egg in scraped ice during the day, which is usually retained. Bowels and liver have been attended to. There does not seem to be much nausea; some fever, the temperature running from 99° to 100.5° F. The condition has existed for a year or more.

It seems hardly necessary to call attention to the fact that vomiting is one of the most frequent symptoms of disease in children and may be due to a great variety of causes. The case in point is evidently not one of cyclic vomiting. Possibly there may be an underlying disease of the nervous system. We assume that constipation coexists and that possibly the pulse is irregular. We also suspect that the temperature may be subnormal just prior to or during an attack.

In searching for the cause, it is to be remembered that autotoxemia may produce vomiting; that it may have its origin in renal disease (therefore the urine should be examined); that there is frequently acidemia;

and that there may be some irritation of the pharynx.

In some cases, vomiting arises originally from a definite cause, persists after its removal, as a habit, and the most trivial things may occasion the attack.

Holt has seen a number of children who, up to the third or fourth year, persistently vomited any solid food, no matter of what variety or how small the quantity given, although fluids could be retained.

Other possible causes for persistent vomiting may be chronic indigestion, abnormalities of the digestive tract, cerebromeningeal congestion.

This little boy should be subjected to a very careful and complete physical examination, including an investigation of all reflexes. Together with the specimen of urine that should be examined, the material vomited after feeding (preferably a mixed cereal and milk, or egg meal) should be submitted, accompanied by information as to the time of expulsion, i. e., the period which elapses between the ingestion of food and its ejection. Then it should be known what is the character of vomiting, whether it is easy or convulsive, paroxysmal, and the like. It would also be of interest to know what caused the death of this boy's parents.

In the meantime, feeding may be tried with clam bouillon, white of egg, and mucilaginous beverages, and, if necessary, by the rectal route. We should be inclined to begin at once a course of alkaline medication, providing the urine is shown to be hyperacid.

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Query 6222.—"Hematuria." F. R., Colorado, writes about a man, sixty-five years old, with the history of three attacks of hematuria in the last two years. The last attack was induced by a strain, the patient standing on a snow bank, trying to jump on a horse, when the snow gave way and let him down. The following day he did some heavy lifting, then he began to pass blood in the urine and has continued to do so ever since, complaining of some pain across lower part of the back and in the bladder. In this case, hypodermic injections of emetine failed to give results, also calcium chloride in full doses, and hamamelis. Our correspondent sends in a specimen of urine and requests suggestions for treatment.

The urine shows evidence of a lesion somewhere in the upper urinary tract and probably some cystitis. Naturally, the exact source of the hemorrhage should be ascertained, if at all possible.

For treatment, it will be well to administer small doses of ergotoid with arbutin and hamameloid, and plenty of barley water, made thin.

In view of the presence of many coli bacteria, a few injections of an autogenous bacterin might materially improve conditions.

It will be well to examine the prostate of this patient and, if the condition does not improve, to make a cystoscopic examination.

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Query 6223.—"Morphine Addiction." G. W. S., Mississippi, writes about a patient, a widow, 70 years old, who has been a morphine habitué since the death of her husband about thirty years ago. She has declined any suggestion of treatment and is regarded as incurable. When the Harrison law passed, she managed to secure a big supply of morphine. The supply is running low, and she and her family are anxious that she have another stock-up. As the doctor interprets the revenue collector's reply to inquiry on the subject, he can prescribe what he believes necessary (stating the case to be incurable at her age), and the druggist can order it on his prescription. One of the woman's sons says he thinks she would try home treatment at the doctor's hands but nothing could induce her for a moment to think of leaving home.

The question regarding the treatment of seventy-year-old patients is not easy to answer. One of the Department rulings is that the physician shall not supply addicts with their drug unless the prescription shows a gradual decrease of quantity, although an increase may be shown in the case of an incurable disease.

It is a question, of course, whether the patient may be regarded as suffering from an incurable disease or whether the officials in that district construe the law in a commonsense way, realizing that it is practically impossible to withdraw opiates from a woman of advanced age.

The writer's experience would lead him to believe that by the time the amount of morphine was reduced to 3 or 2 grains *pro die*, conditions would be so unsatisfactory that one would hesitate to make any further reduction; in fact, by such a reduction, the patient's life might be seriously endangered. However, under no circumstances should the patient be supplied with any quantity of morphine. The safest way would be to prescribe sufficient for say two or three days, then prescribe again. To "stock her up," would be objectionable for many reasons.

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The Summer Outing: Also the Emergency-Case

AT about this time a good many of our readers are getting ready for their annual summer vacation. Every human being wants a vacation—surcease from humdrum work. The child would like to have it twelve months in the year. But, as it grows older and loses its pristine innocence and the cares of life eat into its soul, its heart becomes encrusted with the rust and scale of selfishness and labor, until the time comes when, a grownup man, he is so encased that he no longer feels the anticipated pleasure of an outing. Then he might as well be buried, for any use he is to humanity.

It is to the man of a family especially that the summer outing commends itself. He can throw off the cares and annoyances of life for a time and revert to the unforgotten pleasures of childhood. He can get rid of the women for a few weeks; that is, if he is lucky enough to have found a place to which they are as yet unable to penetrate. Just now he probably is echoing the words of that lovely poem —written many years ago, by, I believe, Mrs. Hemans, and which begins about like this: "Tell me ye winged winds that 'round my pathway roar, is there some spot on earth where women come no more?"

To my regret, I have forgotten the rest of the poem alluded to, but, if any man is fortunate enough to know of such a place as yet unspoiled, he will go there, get rid of most of his clothes and the other accessories of civilization, and lie around to his heart's content: smoke, cuss a little if so inclined (not that he particularly wants to cuss, but he likes to realize that he may cuss if he wants to), cook—or, if he be wise, "let George do it"; and the probabilities are that he will eat like a wolf, and at the end of his allotted season come home hearty, brown, rugged, and in reasonably good temper.

However, it will not be many years before this happy creature's elysian retreat will have been invaded by the eternally feminine element of humanity and thenceforth spoiled for all practical purposes. For, while man is willing occasionally to relax his warfare and take a rest, woman will never do so willingly.

Characteristically, woman, having once established herself within our entrenchment, proceeds to make herself at home and us fellows miserable. You have to wash your face, shave, put on clean linen, and even blacken your boots whenever she is around. For a while she may pretend that she will

join in our outing as a chum, and possibly do so for one short season, but by the next one she begins to smuggle in drygoods and to put them on. And, whenever one woman does this, all the rest follow suit, and each tries to outdo the best one. *We*—poor Adams—then have to up stake and hunt up another, still more remote abode.

But, let us return to our original subject. One of the first things necessary for enjoying an outing is, to cut out work. We spurn all luxury, in order to reduce the list of necessities to the smallest number of items, and these of the lightest possible nature. For some years, we have carried, in our outings, the emergency-case put up by The Abbott Laboratories, and have found it altogether the most comprehensive and satisfactory that we have ever taken. Not that we always find it in everything we happen to want. Certainly not! For, were we to take four No. 8 medicine-cases, each containing a hundred bottles, we still should find that there were one or two remedies that we required but which had not been included, besides discovering that we needed much more of one or two of the remedies than the vials hold. We determine that "next year we shall fill two or three bottles with this particular remedy," then, if we do so, we may not have need for a solitary dose of it, while, though, we have urgent need for the very things that we left out in order to make room for the extras.

No matter how small the pack one carries, it should contain a few purgative pills and a little tincture of iodine, for wounds. Also, some strychnine tablets for snake bite are very good to have. The four slim vials of the hypodermic case may contain strychnine, atropine for hemorrhages, apomorphine for producing emesis, and the H-M-C for any of the innumerable occasions that possibly may arise in which an anodyne-anesthetic combination like that will be required. Were we to add to this list only one thing more above any other, it would be tablets of potassium permanganate, for testing the purity of the drinking-water. But, as no noxious germ will withstand boiling, perhaps it is sufficient if we rely upon tea as a beverage, boiling the water thoroughly.

If one were to carry with him all of the drugs and surgical appliances that could, by any possibility, be required on a month's trip in the wilderness, he would have to have a motor truck or a two-horse wagon to convey them. This emergency-case has been studied out so well, that it is practically impossible to think of any emergency at all likely to happen for which one will not be amply provided. The case will go into an overcoat-pocket easily. The present writer has tried it for five years, and has not had occasion to go outside of its limits for additional drugs.

The hurry of the times affects us so
In this swift, rushing hour, we crowd, and press,
And thrust each other backward, as we go,
And do not pause to lay sufficient stress
Upon that good, strong, true word, Earnestness.
In our impetuous haste, could we but know
Its full, deep meaning, its vast import, oh,
Then might we grasp the secret of success!
Ella Wheeler Wilcox—

ACUTE ANTERIOR POLIOMYELITIS

The whole country has become greatly alarmed about the epidemic of infantile paralysis now prevailing in New York City. At this writing, 1440 cases, with 287 resulting deaths, have been reported. In spite of the efforts that have been made by the municipal authorities and the United States Public Health officials, the number of cases occurring in Greater New York continues to increase, and there is some reason to fear that there may be outbreaks of the epidemic in other parts of the country. A few cases have been reported in Chicago, as also in many other sections; but their number is no greater than is common at this time of the year. There is no special cause for alarm, nevertheless it certainly is the part of wisdom to be prepared, and every physician should familiarize himself with the symptoms of epidemic poliomyelitis, so that he may be able to recognize it quickly and treat it energetically from the very start.

Anterior poliomyelitis is now known to be a contagious disease. Flexner has definitely shown that the infecting agent belongs to the group of socalled filterable viruses, and that the organism is an exceedingly minute one, although its exact nature has not yet been positively determined. The portal of entry of the virus is the upper respiratory tract, particularly the nasal cavities, which are in direct communication with the meninges, by way of the lymphatics. The first pathologic change, therefore, is an acute interstitial meningitis; but with the advance of the process the infiltration follows the vessels as they enter the anterior portion of the cord from the meninges. There is hemorrhagic exudation around these vessels, pressure on the nerve-cells, anemia of these cells, and finally degeneration.

The nasal discharges convey the organism from person to person, and Sawyer, in his

recently published study of the California epidemic of 1913, states that it also was conveyed in the rectal washings obtained from a patient fourteen days after the beginning of paralysis. The infectious substance may be carried by garments, bedding, handkerchiefs, foodstuffs, and other articles soiled with the body discharges, as well as by kissing, coughing, and sneezing, very much as is the case with other contagious diseases, such, for instance, as scarlet-fever, diphtheria, and typhoid fever. It is highly probable that the virus may also be conveyed by the bites of insects, as lice, fleas, and flies. Rosenau advanced the theory that the disease-germ was transmitted by the bite of the stable-fly, the stomoxys calcitrans, and our friend Dr. Philip A. E. Sheppard, of Boston, who officially investigated this problem for the state of Massachusetts, still is confident that this is the method of conveyance. Sheppard bases his belief, in part, on the fact that the occurrence of the disease in epidemic form frequently is concurrent with the life-incidence of this fly.

Probably more important, however, than insects or fomites, in the transmission of poliomyelitis, is the carrier—the individual who himself is suffering from the disease in a mitigated form. There is a growing belief that the socalled abortive type of poliomyelitis plays much the same part in its distribution as does the typhoid-carrier in the transmission of that disease. It is declared that from 25 to 56 percent of persons attacked by poliomyelitis suffer from this mild form, in which the symptoms are so slight as usually to go unrecognized.

Infantile paralysis is, generally speaking, a disease of the summer and fall months. In the New York epidemic of 1907, the outbreak began in July and reached its maximum in September. As a rule it disappears before the cold weather sets in, although winter epidemics have occurred. Childhood is the age of susceptibility. According to Peabody, Draper, and Dochez, whose experience is verified by that of Mueller, 96 to 97 percent of the patients are 10 years old or younger, while 89 to 90 percent are below the age of 5 years. Perhaps the age most liable to infection is the latter half of the second year. In the New York epidemic of 1907, just cited, in which 729 cases were reported, 7 of the patients were between 9 and 10 years of age, 14 between 10 and 15, 5 between 15 and 20, 1 between 20 and 25, and 2 over 25 years of age; all the remainder being very young. Wickman tells of one man 46 years of age who suffered from the disease, and in the Vermont epidemic (reported in *Vermont Medicine*, Feb., 1916) there was one patient of 38.

There is considerable difference of opinion with regard to the length of the period of incubation, but the consensus of opinion is, that it usually varies between five and ten days, with an average of about a week.

The early symptoms are of such a general character that it is difficult to identify them as being characteristic of poliomyelitis. In some epidemics, these symptoms closely simulate those of an ordinary cold, being largely referable to the respiratory tract; while in other epidemics they are of a gastro-intestinal type, beginning with gastric disturbances, vomiting, and often diarrhea. The gastrointestinal type seems to be the most common in the prevailing New York epidemic. Fever is practically always present, though generally it is slight. It very rarely exceeds 103° F., the temperature ordinarily being in the neighborhood of 99 and 99.5 degrees. Profuse sweating is mentioned by Mueller as one of the cardinal symptoms of the early stage of the attack, although this by no means is constant. Other symptoms that are quite characteristic, and of considerable diagnostic value in making an early diagnosis when there is an epidemic of poliomyelitis, are: drowsiness, nervous irritability, hyperesthesia, and pain on passive motion. Stiffness of the neck and resistance to flexion are very common. Attempts to test for the Kernig sign often cause discomfort, while pain in the head, back of the neck, back or legs often is present; in fact, pain in some form is a constant feature of acute poliomyelitis. A not uncommon forerunner of paralysis is weakness of the muscles. There may be muscular twitchings, and very rarely convulsions.

The blood-picture is of comparatively little value in making a differential diagnosis. In some cases, there is a low leukocyte count: in others this is high. More can be learned from an examination of the spinal fluid, which often exhibits a striking increase in the number of cells per cubic millimeter and sometimes an increase in the globulin content.

In the most common form of the disease, paralysis of one or more muscles appears on the first or second day after the febrile onset; still, it may be delayed for several days. "At this time," say Peabody, Draper, and Dochez, "the child may be found on its back, with thighs slightly flexed and everted in a froglike manner, and the head usually rotated to one side. The eyes are partly or wholly closed and there is a peculiar tired, wilted

expression. Not infrequently the chin is pointed upward a little, indicating a small degree of retraction. From this drowsy or almost sleeping condition, the child can be roused suddenly, often by the gentlest touch or manipulation. Very frequently, when the leg is lifted only a few inches from the bed, an expression of annoyance, rather than of distress, crosses the face, and if the leg be the paralyzed one the child often tries to free it from the examiner's hands by twisting the trunk and shoulders. This procedure is a surprisingly common one and is usually accompanied by a pettish, fretful, rather bored look and whine; but when the examiner stands back from the bed the patient lapses almost at once into the drowsy state."

In the more severe forms, the child is likely to lie on its side, with the head drawn back, the thighs flexed, and occasionally there is true opisthotonos. As a rule, all these patients have what is described as a "drowsy, wilted look," although rarely they may be brighteyed and present an anxious, apprehensive, rather frightened expression. They are practically always afraid to be touched and cry out on the approach of the nurse or the doctor.

The paralysis is most likely to attack the lower extremities. In 808 cases reported by Wickman, the paralysis was limited to the legs in 43.69 percent; one or both legs were affected in 85.64 percent. The paralysis does not necessarily present an unfavorable prognosis, since about 44 percent recover the use of the affected members, while many of the remainder are only slightly disabled. Recovery is more likely to occur in older patients.

The mortality, as a rule, varies between 10 and 20 percent. In the present New York epidemic it has been high, approximately 20 percent or more. When death occurs, it results from paralysis of respiration. It has been observed by Peabody and his associates that in fatal cases the patients are very ill for the first two or three days. In a series which they report, *all those who died had paralysis of one or both deltoid muscles, thus indicating inflammation of the cervical cord.* The extreme prostration and the upper-extremity paralysis, unless the attack was of the rapidly ascendent type, were the only tangible diagnostic features. Another interesting feature of these fatal cases has been the transformation in the mental character of the patients just shortly prior to death. (See the department of What Others Are Doing, of this issue.)

In the efforts to control the spread of infantile paralysis, much emphasis is laid upon the fact that the disease is conveyed mainly by the discharges from the nose and rectum. The virus is undoubtedly present in the nasal discharge during the prodromal stage and possibly during the stage of incubation, and it is readily destroyed by hydrogen peroxide, even in 2-percent solution (stronger solutions are better), used as an irrigant for mouth and throat in persons exposed to the disease. Carbolic acid seems to be only feebly germicidal for this organism. The new antiseptic, Chlorazine, should be ideal. Of course, special attention should be paid to the nose and throat in any person suffering from the disease, care being taken to prevent soiled garments, bedding, handkerchiefs, dishes, eating-utensils, and other objects from coming in contact with uninfected persons. The stools should be sterilized with exactly the same care employed in the case of patients suffering from typhoid fever. Children who are exposed to the disease should be kept out of school for at least two weeks, and away from places of amusement where they will come in contact with other children. Complete isolation of the sick should be insisted upon.

Special attention should be given to the socalled abortive cases, that is, to individuals, old or young, who are suffering from obscure ailments of any kind during an epidemic of infantile paralysis. Any child, or older person for that matter, who is feverish, complains of drowsiness, and shows nervous irritability may be undergoing such an attack and should be quarantined until all danger has passed.

The treatment of acute anterior poliomyelitis is, on the whole, unsatisfactory. Hexamethylenamine is recommended by Cushing and Crowe, in the belief that, being excreted in the spinal fluid, it would act as an antiseptic at this point and prevent further infection. Since this recommendation first was made, it has been pointed out that hexamethylenamine is active only in an acid medium, and, since the spinal fluid is alkaline, it consequently is thought to be of very little value. However, a number have reported experience with this remedy, and in some instances the results seem to have been good. Immune serums have also been tried, but with little success. We have much faith in calcium sulphide, and calx iodata has been suggested. Southwick, in a paper published in Clinical Medicine (June, 1913, p. 482) reported his treatment of 10 cases, in 4 of which the patients recovered

completely from the paralysis and all of whom have slowly improved, with the exception of one, a tuberculous child.

In view of the excellent results obtained, Southwick's method of treatment seems a good one. It is as follows:

"First of all, thorough elimination was inaugurated by means of calomel and podophyllin; then followed saturation with calcium sulphide. After the acute symptoms had subsided, small doses of strychnine arsenate were persistently given, besides such other medicines as seemed indicated for special reasons. Pillows were placed so as to support the affected foot and leg in the most comfortable position. Once a day the child was sponged with a creolinated epsom-salt solution. Three times a day the nose and throat were sprayed with a 50-percent solution of hydrogen peroxide. Seeing no particular indication for urotropin [hexamethylenamine] and never having heard of its use doing good, I did not give it. Morning and night the back and legs were rubbed with warm coconut- or olive-oil, the paralyzed leg being gently massaged and subjected to passive movements. (This after all fever had left.) After the morning bath and massage, the children were placed upon a blanket on the floor, given pillows and their playthings, and were left to their own devices. Without an exception, the gentle rubbing of the back with oil and the massage of the limbs gave comfort, although at first they dreaded it."

Very little can be added to this excellent outline, but it should be remembered that a favorable outcome depends on *right* treatment given *early;* and we can not accomplish much after paralysis has set in. It is of the utmost importance that any suspicious symptoms in any child should be scrutinized carefully when infantile paralysis is about. In every such case clear the bowel quickly with small doses of calomel followed by saline draughts; maintain intestinal cleanliness with the sulphocarbolates, and nasopharyngeal antisepsis with nonirritant antiseptics, and push calcium sulphide to saturation; calx iodata may help; fever calls for aconitine or gelseminine, and nuclein is a vitalizing agent of great value. Crédé's silver-ointment, well rubbed in, is often helpful, while the epsom-salt baths may be given twice daily. Absolute quiet is imperative during the acute stage, and painful parts should be protected and possibly immobilized.

The treatment of the paralyzed member, and the ingenious surgical expedients in the way of tendon transplantation for the relief of deformity, we shall not try to discuss at this time.

We shall welcome the widest possible discussion of this disease. The problem is one of vital interest. Tell us your experience.

Perhaps the best system of diet is to take a little of everything—not too little, nor yet too much—omitting all those foods which experience has shown us to be harmful. And almost everything has its use.

—Edwin F. Bowers.

INDIVIDUAL ENTERPRISES

In Europe, it is not uncommon for men to devote themselves to the cultivation and study of a single plant. This is generally done as a side issue, so that the butler who waits upon you at the table or the tailor who so beautifully restores a damaged garment may at the same time be the highest living authority on the empress narcissus or the cactus dahlia.

Work of this kind seems to commend itself to those of our profession who, through the advance of years, the accumulation of means or the sharp competition of the younger graduates, may have spare time at their disposal. One might, as we have frequently remarked, take up the cultivation of some one drug-plant, choosing, preferably, one which is native to the region where he lives; or—and here is an enormous field lying open to the investigator—one might take up some one of the native plants that thus far has not been studied, and enlighten medicine and the world at large as to its properties and possible applications.

Of the thousands of different species and varieties of native plants, comparatively few have really been studied. While not long ago visiting a town in Central Illinois, I observed with much interest the beautiful horse-chestnut trees along the street; I also saw that the sidewalks were covered with the fallen fruits, while all the trees were laden with them.

I never wholly ridded myself of early teachings, and one of the thoughts instilled into my early life was, the belief that the Creator of this world did nothing in vain. Hence, there must be a use for everything created, although to discover that use might call for considerable study. But, then, there is the Osage orange, with its strange fruit like coarse green oranges. And who, the thought came to me, can tell of any use for the abundant fruits of the Osage orange?

Upon my return to the city, I looked the matter up—first in Lloyd's—and found that the tree is known to attain a height of sixty feet, also, that the wood was formerly employed by the Indians for making bows that in toughness and elasticity approached the famous English yew. The fruit of the tree was used for dyeing yellow, after the pulp first had been removed. This is all the information Lloyd could afford, and that comes under the head of coloring-matters. That fine work, the "New American Therapeutics," by Ellingwood, makes no mention of the plant.

Now, we have these considerations to begin with: Take for instance this fruit, which is not being utilized in any manner. If it were possible, it would have been used as a food, for everything eatable has been or is being eaten. Even the acorn, while somewhat neglected at present, was the staple food of at least one race in antiquity, and has found renewed favor in Germany and Austria since the blockade pinch.

This Osage orange as an article of food seems an impossibility. We may assume that the reason why it has not been utilized as a food is, the presence of some unpleasant or dangerous principle. But an unpleasant or dangerous principle is a medicinal one. It is unpleasant or dangerous, because it acts upon some function of the human economy; therefore, it is up to us to find what principle is present and in what ways it acts upon the human body. Then we can utilize it when such an action is required.

Here is an opportunity for somebody who has the leisure, and the desire to occupy his spare hours with a useful and possibly remunerative avocation. Let him study this plant; find in what portion of the plant the greatest activity resides; what is the best means of extracting that activity; and isolate, if possible, the active principles.

All this is, by no means, a difficult task for anyone who is willing to brush up his long-forgotten chemistry, renew it, and possibly take a few lessons from some competent teacher on the methods of accomplishing the tasks which I here have outlined. Then the clinical applications will be easy; and when one has prepared a sufficient quantity of the remedy he can easily find among his brother physicians those who would assist in making these observations.

Who is there among our many thousands of readers who would like to take the opportunity of adding a new agent to our materia medica? One need not be afraid of overdoing this matter. While we have very many more weapons in our arsenal than any one physician ever uses or can possibly use, if we come to study the physiology of the body and ask ourselves what we possess in the way of remedies to elevate or depress each of the innumerable functions of that body, we shall find in many instances that no remedy has been developed.

There is no reason why we should not do this work. It is a useful work; and nobody can tell until we are started how many treasures lie within our reach, but as yet undiscovered. We may thus utilize native plant remedies until the war passes and Germany gets ready to again furnish us with her chemicals. (Nota bene: This last remark was penned before that U-boat slipped in under the watchfully waiting British armada. Nevertheless, my argument still holds good.)

Better is it to have a small portion of good sense, with humility and a slender understanding, than great treasurers of science, with vain self-complacency.
Thomas A. Kempis

THE NEWER DIAGNOSIS

Doctor Slattery, in a recent number of *American Medicine*, contributes an excellent article describing some of the newer methods of diagnosticating, and he speaks rather discouragingly of the old physician, whose diagnosis was always a guess. However, he might well have complimented that oldtime doctor upon the frequency with which his guess proved correct.

The whole art of diagnosis has been called in question by men who, judging simply from autopsies, have failed to reflect that these represented but a very small proportion of the physician's work. Consisting only of the cases in which therapeutics had failed, it was not to be wondered at that the diagnoses also turned out, in a large proportion of the cases posted, to have been incorrect. But, if a man during the period of his existence goes through ninety-nine illnesses and finally dies, he may safely credit the physician with ninety-nine percent of correct diagnoses—and that, in all conscience, is near enough to perfection.

It is true that with a clinical thermometer we can tell exactly what is the fever-temperature, but the older physician without the aid of this modern instrument could come within an eighth of a degree of it with almost invariable certainty. So, also, we may take the tension of the pulse by instrumental measures, but this does not teach us any more

than any expert clinician formerly ascertained by feeling the pulse. Just as the watch and clock have succeeded the methods of telling time that were employed before these machines became so common, so we today resort to—and will continue to do so—these methods of precision.

Doctor Slattery goes on to enumerate a number of the striking advantages of the new methods of precision, as follows:

Through the use of a mechanical instrument, the need of a dose of atropine was indicated; and this cured what was supposed to be a long-standing heart-block.

The same instrument discovered in a man, who had no clinical cardiac symptoms, an auricular flutter, whereupon the ailment was cured by giving digitalin.

A laboratory-man, by examining a specimen of blood, discovered nephritis in an early stage in a man who exhibited no clinical symptoms.

A blood examination helped to diagnosticate a diabetes, when the urinary tests failed to disclose any sign of it.

A case of rheumatism examined culturally for organisms showed excess of uric acid, and colchicine effected a cure.

A man having a specimen of his blood is able to describe the respiration of a patient whom he has never seen.

By a response of the skin to an injection, there can be told as to whether an infant has, or ever is likely to have, diphtheria.

The foregoing might be amplified almost endlessly. In fact, the art of diagnosis has made such enormous progress of late, that we may look for the time, not so remote, when medical men, not satisfied with finding out what ails a person, will try to discover how they can cure their patient. And in this we doctors shall have the hearty concurrence of the public, for every man is far more interested in his recovery than he is in the correct diagnosis of his complaint.

In truth, it speaks well for the older physicians that, with all their crude primitive methods of diagnosis, the proportion of their cures has been as great as it was. The fact of the matter is, the imperfections of the older methods of diagnosis depended primarily upon ignorance of physiology. Were we as thoroughly versed as we should be in the functions of the living human body, if we knew as much about our own physiology as we do of our own anatomy, it would, by no means, be difficult to recognize deviations from the normal standard of operations or functions; and it is simply a question of learning and experience to detect the cause of such deviations.

The profession seems to have taken these methods with that completeness that characterizes us as a body. If a method seems to disappoint our exaggerated conceptions of its possibilities, we drop it like the proverbial hot poker. Sooner or later, however, the profession must return to the rational method of treating disease, that of applying our knowledge of physiology, recognizing its derangements and the cause of such derangements.

We shall never do without the modern methods described by Slattery, but we shall unite them to the older ones, and the result will be, a better race of doctors than existed in the olden times or than has been produced up to the present. As it is, I should accept the verdict of a really experienced physician of the older class before I should that of a youngster, newly introduced from the laboratory and as yet without the experience which is absolutely necessary to translate his findings into substantial truths. In the same way, I should prefer a thorough therapeutist who knows drugs, rather than the most skilful surgeon who ever sawed off a leg.

To talk of charity beginning at home, is only another way of letting people know that we are stingy.

SYSTEMIC INFECTIONS ORIGINATING FROM THE ORAL CAVITY

We are accustomed to speak complacently of the tremendous strides with which we advance along all lines of human endeavor. In electricity, in industrial chemistry, in the natural sciences generally, increasing knowledge has placed us in possession of advantages and benefits that our fathers had believed impossible, even if they could have imagined them in their wildest flights of fancy. Except for the older members of the profession, physicians hardly can realize what this same progress has meant to medicine. It is not yet a lifetime since the bacterial origin of many of the diseases was pointed out by Pasteur and proved by Koch and others, and since the treatment of these diseases, thus placed upon an etiological or causal basis, has become far more successful than it had ever been before.

We find it difficult today to picture to ourselves what difficulties were encountered by those pioneer investigators to whom we owe the science of bacteriology and its daughter science immunology; how new modes of

study and of research had to be devised; how the very form of question that had to be answered had to be discovered from step to step; how the therapeutic deductions had to be drawn tentatively—empirically, in fact—until with increasing information the benefits of all this patient and difficult research now accrues to our patients, in all branches of surgery and of medicine.

Even though the fact that certain microorganisms could, and did, produce certain diseases was fully understood, the modes and other conditions of infection were not clearly appreciated for a long time, and it is only within recent years that one of the most important modes of infection has become understood in all its bearings and in its far-reaching consequences; namely: the localization of bacteria in the mouth-cavity, to which numerous and varied disease-processes have been traced. It is true that Miller had pointed out as long ago as 1889 that mouth infections may cause constitutional diseases, but this was believed to be rare, and, moreover, septic foci in the mouth and tonsils as well as in other cavities immediately accessible from outside were usually overlooked, while secondary diseases were accepted as primary ones, when, in fact, they followed upon the primary focal infections in their localizations.

The principal mode of infection, for virtually all systemic infectious diseases, was held to be by inhalation or by ingestion, and, very naturally, also, the direct infection through wounds and abraded surfaces was understood; it was not realized, though, to how great an extent infection-foci in the oral cavity might be responsible for disease in distant organs. However, increasing knowledge and improved methods of diagnosis have proved the frequency of small chronic septic foci in the mouth and tonsils. The newness of the subject resides, as is pointed out by Dr. Judson Daland (*N. Y. Med. Jour.*, 1916, p. 1159) in the fact that small chronic septic foci are a common cause of more or less serious—acute, chronic or recurring—systemic diseases.

It was realized only a few years ago that one of the commonest constitutional diseases secondary to focal infection is rheumatic fever, or polyarticular rheumatism—better named septic polyarthritis—and this focus is most frequently situated in the mouth or the tonsils. The conception that an abscess around an ingrowing toe-nail may produce endocarditis; or that an abscess situated anywhere may cause paroxysms of chills, fever, and sweat; or that a gonorrheal prostatitis may give rise to arthritis, has long been recognized; but that a small abscess around the root of a tooth or in and around a tonsil can cause acute recurring or chronic disease of the joints, bones, periarticular structures, muscles, heart, vessels or kidneys, and give rise to ulceration of the stomach, duodenum, gall-bladder, appendix, thyroid gland, pancreas, ovary or meninges, is knowledge of more recent date.

It is, therefore, obvious that the prompt diagnosis and removal of a septic focus, wherever situated, is of the greatest importance, and this is particularly true of the foci of pyorrhœa alveolaris, which have been amply shown to be either the direct or indirect source of many affections involving distant organs, the etiology of which many times was very obscure.

The connection of certain cases of polyarthritis with bacterial infection localized in the tonsils was followed by a revival of the former "slaughter of the tonsil," and not without justice. The relation of pyorrheal lesions to similar and to many other systemic diseases was recognized recently. The therapeutic procedures based upon this etiological conception have already passed through numerous and varied vicissitudes, from Wright's vaccine-treatment and from destructive surgery, through the list, to the present specific treatment by means of emetine, which latter has been found to be the most effective.

Some months ago, the extreme position of many English physicians, of condemning to ruthless sacrifice all dentures of patients in whom pyorrhea had been diagnosed was criticized in the London *Lancet*. American dentists have long ago learned to treat this obstinate condition with painstaking care, and have saved countless teeth that would have been lost had not rigorous cleanliness been insisted upon by them. It is, however, only since the antientamebic action of emetine has been fully recognized that a truly etiological or causal treatment of this widely prevalent disease has become possible and that we are in a position to prevent the many secondary affections that may be traced to it.

In dealing with Riggs' disease, it must not be forgotten that all open lesions in the buccal cavity soon become subject to secondary infections and that the ulcers and abscess-cavities usually are harboring various pathogenic germs, more particularly staphylococci and streptococci. It is these coexisting infections which, more particularly, may find

secondary localizations in joints and other places and thereby give rise to protracted and obstinate diseases.

The most important prophylactic factor against pyorrhea is scrupulous cleanliness of the teeth and gums, a periodical examination by a careful dentist, the routine use of ipecac powder for cleansing purposes, and administration of emetine whenever indicated, in order to destroy all foci in which the entamœba alveolaris has found entrance.

One can begin so many things with a new person—even begin to be a better man.—George Eliot.

RED-CROSS APPEAL TO THE AMERICAN PEOPLE

The following appeal has been sent out by former President William H. Taft in behalf of the relief-work necessitated by the Mexican situation:

With the calling of many thousand men into military service, new and heavy responsibilities fall upon the Red Cross, in its relation to the army and navy on the one hand and to the people of the United States on the other. At present, these responsibilities are: first, to provide assistance to the medical service of the armed forces of the government, by the organization of base hospitals, ambulance columns, and other units for the care of our sick and wounded; second, to purchase, collect, forward, and distribute supplies for our soldiers in field, camp, and hospital; third, to help soldiers' families left destitute and not provided for by other agencies.

For the necessary means to discharge this patriotic service, the Red Cross, in accordance with its custom, turns to the public, whose sympathy and generosity it has learned implicitly to trust. Upon the response to this appeal must depend the adequacy with which the Red Cross will be enabled to help our sick and wounded soldiers, to soften the harshness of field-service, and to meet urgent needs among dependents at home.

In anticipation of such a grave emergency as this, the Red Cross has been building up an organization competent to meet the obligations of its national charter and to make effective the generosity of a patriotic people.

Contributions may be sent to the treasurer of a local chapter, or checks may be made payable to the American Red Cross and sent to national headquarters in Washington.

Wm. H. Taft,
Chairman, Central Committee,
American Red Cross.

We are informed that the Red Cross will collect, forward and distribute suitable articles for the soldiers in the camps. These supplies, however, can not be accepted for delivery to any specified persons, but, if at all, only for designated companies or regiments. Packages intended for individuals should be sent through the parcels post or express services. Supplies accepted for shipment by the Red Cross should fall within the following approved list: Reading matter, games, comfort-bags, pajamas, cotton socks (medium weight, large sizes), towels, pipes, smoking-tobacco, cigarettes, chewing-gum, chocolate in tin boxes, hard candies, George Washington coffee, evaporated cream, canned fruits and other delicacies in tins, and electric fans for hospitals. Perishable or bulky articles and articles of food and drink that are harmful will not be accepted for transmission.

In addition to this service, the Red Cross is making arrangements to establish base hospital units, which will be turned over to the War Office, if war should be declared, and will also participate in organizing relief-work for the families of soldiers. Particulars concerning the various activities of the Red Cross can always be obtained from officers of the local chapters and through the newspapers; however, our present object is, to direct attention to this meritorious and important work.

A REMARKABLE NONTOXIC ANTISEPTIC

Undoubtedly every reader of Clinical Medicine will recall the articles that appeared in these pages some months ago describing the results of the investigations conducted by Dakin and Carrel in the army hospitals in France with various antiseptic substances, and which, it appears, culminated in the discovery that in the solution resulting from combining chlorinated lime and sodium carbonate (Labarraque's solution) with boric acid they had found one of the most effective as well as innocuous local antiseptics available. These investigations were carried on in the laboratories at Compiègne, supported by the Rockefeller Institute for Medical Research, where particular attention has been devoted to the study of antiseptics.

In one of the first reports made by Doctor Dakin, printed in *The British Medical Journal*, August 28, 1915, he suggested the possibility of utilizing certain synthetic substances the action of which is similar to that of the hypochlorites, but which are more powerfully antiseptic. He particularly mentioned paratoluene-sodium-sulphochloramide, which, as he pointed out at that time, has the very distinct advantage over the hypochlorites of being stable, both in solid form and in solution, and capable of being produced at relatively low cost.

In a later communication upon this subject, Dakin, working in collaboration with

Cohen and Kenyon (*British Med. Jour.*, Jan. 29, 1916), reports their experiences with this substance, which, it now seems, presents advantages over other antiseptics of such startling character as to make it highly probable that para-toluene-sodium-sulphochloramide will eventually replace, at least very largely, many antiseptics at present in common use.

This "hyphenated" substance has already been naturalized in Great Britain under two abbreviated names, namely, "chloramine T" and "tolamine." Under these names it is being marketed by large British pharmaceutical houses. Doctor Dakin, in his writings, uses the term chloramine; but, unfortunately, this name is extremely unsatisfactory, since it already has been adopted by an American manufacturer for another, quite different, product. In this connection we may state that an American firm—The Abbott Laboratories—has recently begun manufacturing this synthetic substance and is putting it on the market under the name of chlorazene.

Whatever its name, however, chlorazene or chloramine—as you may prefer—this new preparation is certainly a remarkable antiseptic. It combines powerful germicidal action with virtual nontoxicity. Also, Dakin declares that it "has no corrosive action, even in concentrated solution"; also that "it neither precipitates nor coagulates proteins, such as blood-serum—a property of greatest practical importance in the treatment of infected wounds." Moreover, we are informed that "guinea-pigs and rabbits tolerate as much as 1 Gram per kilo-weight, administered subcutaneously, without producing any symptoms other than the moderate local reaction resulting from the injection of a strong solution."

The germicidal action of this substance is "intense," once more to quote Doctor Dakin, who declares that the bactericidal action of one molecule of this chloramine is about four times as great as that of a molecule of sodium hypochlorite; while, "in addition, it is much less irritating than the latter substance and may be used safely at a concentration five to ten times as great."

Tests made with this new antiseptic upon several of the common organisms have demonstrated that chloramine is 2000 times as germicidal as phenol in aqueous solution, and 30 times as germicidal in blood-serum. Streptococci, it has been found, are killed in an aqueous solution of 1 : 1,000,000, while in blood-serum it destroys them in a dilution of 1 : 2500.

Clinical experience, of which there is now an abundance, thanks to the work of Doctor Dakin and his medical associates in the English military and naval service, has apparently demonstrated that this substance is effective under the severest tests.

Following, we reprint a brief outline of some of the experiences with this preparation, as published in *The British Medical Journal* for January 29, 1916.

"First of all, a series of fresh but badly infected shell wounds containing dirt, clothing, and shell fragments was studied. The wounds were exposed, cleaned mechanically in the usual fashion, and lightly packed with gauze, leaving a narrow rubber tube or tubes passing to the bottom or recesses of the wounds. By means of these tubes, 10 to 15 Cc. of a 3- to 4-percent solution of chloramine was squirted at frequent intervals into the wounds by means of a glass syringe, so as to moisten the whole surface of the cavity. The results were clinically similar to those observed, in the early treatment of infected wounds, with sodium hypochlorite, with the exception that sloughs are dissolved somewhat more rapidly by the hypochlorite than by the chloramine. The majority of these wounds, though undoubtedly infected at the start, could be rendered aseptic after three to five days when treatment was commenced early. The wounds so treated were severe cases, including a number of fractures of the femur and humerus.

"But the properties of chloramine seemed to indicate that it might find a more valuable application in cases where the more generally used antiseptics were either too irritating or too feeble. Accordingly, it was used in a large number of cases of jaw and mouth injuries, which are so apt to become extremely foul. Chloramine was used in 1- to 2-percent solution as a mouth wash, and a 2-percent solution was also squirted into the external wound cavities through short rubber tubes lightly surrounded by gauze packing. The results were very encouraging. Some of these cases have been described by Surgeon Fisher, R. N., of H. M. H. S. Rewa, in a recent issue of this journal. As an antiseptic mouth-wash, 1- to 2-percent chloramine has been found to be of value in a variety of septic mouth cases.

"In addition, chloramine, at 0.5 percent, has been used for the irrigation of bladder and uterus in septic cases, and the results are stated to be encouraging. A few cases of chronic urethral infections, which had been unsuccessfully treated with silver prepara-

tions, did well with injections of 1 to 2 ounces of chloramine [solution] four times daily, beginning at 0.5 percent strength and then increasing later to 1.5 to 2 percent.

"A practical point which may prove to be of value is the fact that gauze may be readily impregnated with large quantities of chloramin. It is possible, for example, to get as much as 10 Grams of chloramine into a four-fold roll of gauze of 1 yard by 4 inches. The use of this impregnated gauze for packing infected wounds is being investigated at the present time by Sir Berkeley Moynihan. There are very few substances of high antiseptic value which can be successfully used for impregnating gauze. Chloramine-gauze obviously should not be moistened before use, or the antiseptic will dissolve out. It can be used dry for lightly packing, and subsequently moistened, if necessary, when in position."

This new antiseptic is attracting more attention in England than any remedy introduced since the beginning of the war. A number of articles have appeared in *The British Medical Journal, The Lancet*, and other publications, and these journals have discussed its merits and its possibilities editorially. While the Britisher is notoriously conservative, there is plainly a very general feeling that the ideal antiseptic has been found, although, of course, this belief is not unanimous. For instance, Emery questions the extreme value claimed for the chlorine-carrying antiseptics by its warmest advocates.

During the last few years, many surgeons in this country and elsewhere have expressed the opinion that the day of antisepsis had gone by and that the present need was for asepsis. They had been led to this opinion, because every antiseptic of acknowledged germicidal power had heretofore been found to be irritating, caustic, and prone to destroy the sensitive tissues so essential for rapid wound repair.

The great war has taught the surgeons who are battling with disease on the blood-soaked and bacteria-infected fields of France the fact that antiseptics still are absolutely essential, and likewise has brought home to them the importance of finding some substance capable of destroying bacteria in infected wounds without impairing the vitality of the tissues.

Chlorazene promises to be the remedy for which these surgeons—as well as the surgeons all over the world—have been looking; and it is a source of pride and satisfaction to us that a great American institution, The Rockefeller Institute, through its representatives at the battle front, was instrumental in developing this product. We also have a feeling of pride in the fact that an American pharmaceutical manufacturing house has been able to produce this substance so promptly, and to offer it to the medical profession of America for further and more exhaustive tests. But its values are still "in the lap of the gods." Much clinical work still remains to be done by American physicians to determine its limitations and establish its exact utilities.

If we will do for our children one half as much as we wish our parents had done for us, the rising generation will have abundant reason for gratitude.

THE INFLUENCE OF JOY

Odd, how we are still influenced by the early Puritan settlers of our country. Driven to seek new homes, because in their native land they could not follow freely the grim religious tenets which to them were truth, their views of life were not rendered more joyful by the hardships, dangers, and tribulations that were their fate in the new world. The stern, unyielding New England character, with all its sterling qualities, but too often blighted by a refusal to see the beauties of life, has come down to us, and insists upon deferring to the *seriousness* of life. And, yet, deep down in our hearts there are different points of view. Many of us can never give up being "kids"; the spontaneous enjoyment and the joy of living peculiar to childhood is yielded under protest; and, somehow, we cannot see why we should become curmudgeons, merely because we have grown up and have to find the "spondulics" to pay the landlord and the grocer and butcher and baker and to provide clothes for the missis and the kiddies, not to mention our own tobacco and cigars.

Combined with the hurry and stress of life, a gloomy, misanthropic philosophy is not conducive to happiness—or to health, for that matter—and we rebel against existing conditions, without knowing just how to remedy them. And, why, indeed, *should* we be miserable? Life is not. Nature is not. All flowers, all plants, everything in nature turns to the light, to the sun; everything is glad, as glad as can be, and the worst storm can blight the gladness only for a time; for, the joy of life breaks forth again exuberantly as soon as the storm has passed.

A rebellion against the miserable gospel of unhappiness was attempted, more or less blindly, by the socalled New-Thought move-

ment. It was supported by such publications as "The Physiology of Faith and Fear on the Mind in Health and Disease," "Worry the Disease of the Age," "Why Worry," and others of that kind. Even in far older books is the superiority of joy and happiness over killjoy influences emphasized. "Mirth," quotes Robert Burton, in his famous "Anatomy of Melancholy," "purgeth the blood, confirms health, causeth a fresh, pleasing, and fine colour, prorogues life, whets the wit, makes the body young, lively, and fit for any manner of employment."

Of late, the influence of mental conditions over the physical and physiological processes has found a deep and enthusiastic student in the Russian physiologist Professor Pavlov—who died recently, all too soon. Pavlov found many followers, thanks to whom our philosophy of life may soon be lifted to its proper plane, that of the reasonable and wholesome attitude of cheerfulness and of contentment.

The study of the emotions has been undertaken, in our own country, among others, by Professor G. Van Ness Dearborn, whose interesting book entitled "The Influence of Joy" is announced in this number of CLINICAL MEDICINE.

Between an empty pocket and an empty head, the majority of mankind would make choice of the latter.

THE MELTING-POT AND OTHER POLITICAL REFLECTIONS

In Chicago, the work goes bravely on, of working over into good Americans the raw material drawn from effete old Europe. One may judge, perhaps, of this work by the names enumerated below; this list comprising one week's prosecutions instituted by the Board of Health of Chicago for violations of the food-law. This list of names challenges attention; viz.: Jurowski, Montag, Togryske, Piller, Abel, Trebolos, Erodes, Bolin, Tonashewski, Pitassi, Kiss, Madajtzyk, Norwizki, Katlan, Kofzminsky, Silverman, Anaston, Abrahamson, Roysik, Bekata, Ostringer, Chologenko, Wirtz, Dobrzanski, Catca, Wertheimer. Beside the foregoing, we find in that lot of law-violators the names of William Powers, Patrick J. Prendergast, Louis Simon. These latter three ought to be ashamed of themselves for not having set a better example to the newcomers to America that were arraigned with them. How can we expect these recent immigrants to observe the laws of health, when those who ought to know better are arraigned with them for breaking the same laws?

This presentation will give some indications of the cosmopolitan population of Chicago. But, make no mistake: While these men and women have been gathered from all corners of Europe, their children are all good Americans. It is interesting to the ethnologist to observe how they all fuse into one general stock. There is no distinguishing characteristic of any race that goes to form an element of our population but what is quickly acquired and manifested by the children of the other races as well. Incidentally, it may be remarked that, with all the newspaper abuse so liberally showered upon him and upon everybody else who has dared to favor the present administration of the city, Health Officer Robertson is proving the most active and useful incumbent of that office it has had since the days of Frank Reilly. Every department and every one in the health-office has been energized and benefited by the work of this remarkable man. Nevertheless, while criticism has been made of his asserted methods and alleged abuse of political patronage, nothing has been advanced against his efficiency as health-commissioner. And that is what the citizens of Chicago are mainly interested in.

Some of the Chicago newspapers at times expressed surprise that Carter Harrison should be four times elected mayor of Chicago, in spite of the abuse he received. Nevertheless, it is certainly significant that when he was last elected, after having been in the limelight for so many years, through so many political campaigns, the meanest thing his opponents could find to say against him was, that he had "moved to southern California to live"! This in itself does not seem to be such an unpardonable sin, but, it was the only thing the politicians opposing Harrison could find to stir up opposition over. It is very easy to criticize and to find fault generally, but, when one comes down to facts and can find nothing else to fuss over, a man in that position can well afford to take the abuse given him philosophically.

Just now a good deal is being said about the discharge of a number of teachers from the public schools. As a rule, people holding a job do not like to lose it. They generally get to believe that they have a personal ownership in the job and feel as aggrieved, if it be taken from them, as they would in having their pocket picked or their house robbed However, it would be remarkable if any were not the better for judicious pruning, an

dead wood is especially prone to grow on the political evergreen. An upheaval such as this usually is necessary, in order to establish new ideas, new methods, and advances in general.

Perhaps if the shams of society did not hedge us round with barriers which seem impassable to our shame, and curb some of the most honest and generous feelings of our hearts, there might be better men and women in the world for the pulling down of a little conventionality. How often does some noble impulse die in the birth, because it is not the custom to show that we feel it, and Mrs. Grundy, with her satin petticoats covering her festered sores, would gather them more closely around her, when she heard of the solecism we had committed.—Florence Marryat.

THE LAST TRENCH SURRENDERED

Thanks to the discrimination of our lawgivers, the innumerable swarms of folks who want to be doctors, without learning how, are granted nearly all the rights and privileges pertaining to our guild. Chiropractors, Osteopathists, Christian Scientists, and the rest of the gang, may do almost anything they like; but the legislators firmly refuse to them the privilege of employing drugs. In only one direction, is there an effort made to encroach on us in this respect, and that is the concerted movement of organized pharmacy to detach us from the privilege of dispensing our drugs. If successful, this would be a deathblow to the practice of medicine, for it would place us completely at the mercy of dangerous competitors. The druggist himself prescribes and dispenses drugs.

This being the condition of affairs, we may ask, How do the prominent men and institutions in our profession seek to protect us in this last and most important privilege? The answer is easy: They don't.

Instead of holding tenaciously to our last remaining privilege, Johns Hopkins abolishes its chair of therapeutics. Coming out flatly in explanation, that, "as all cases come eventually to the surgeon, we might as well skip the intervening processes and let them go to the surgeon at once"! Then they proceed to meet the wishes of the druggist over half way, by mentioning that, "if anybody really cares to investigate therapeutics, he is referred to the department of pharmacy of the institution."

We welcome the movement. It indicates that the tide surging against therapeutics and internal medicine in general has reached its termination. From the extreme point of its swing, the pendulum must return.

For our part, we have always believed that it is better to cure a diseased organ than to extirpate it. Also, that, if drugs influence the vital functions in any way, we should learn to apply that influence usefully. Moreover, we have believed that it is essential that the physician should have the privilege of dispensing his own drugs, as in that manner he can obtain a personal familiarity with them and learn to judge of quality in a way that he cannot possibly do if he simply writes prescriptions, which go to any pharmacy that happens to be favored by the patient.

It is true that the pharmacists have gone to great lengths to compel the physician to do this latter thing, and in some states laws have been proposed forbidding the physician specifying the pharmacy to which his prescription should go. The basis of this is, the assumption that all pharmacists are perfect in their art and that all drugs dispensed by them are of precisely the same quality. Nevertheless, there has not been, within the limits of our knowledge, a solitary investigation as to the quality of drugs in the pharmacies, made by any authority whatsoever either in the profession of pharmacy or outside of it, that has not revealed such wide variations in the strength of the drugs as to render the use of them by the physician anything but a matter of certainty. It is not necessary to adduce any quotations to prove this point. No reading physician has failed to meet published records of such examinations. Even in New York City, the metropolis of the world, variations in many of the most-used drugs, reaching as high as 45 percent, have been reported by the pharmaceutic inspectors themselves.

The fact is, that these regulations imposed by organized pharmacy are designed eventually to take the prescribing of drugs out of the hands of physicians entirely and leave this matter to the druggists.

Since the movement has apparently the sanction of many prominent men in medicine, it is well for us to inquire how far it is likely to go.

The profession is to be composed of two classes of physicians, but not more. One, the very highly cultured, scientific surgeons and research-workers; the other, the druggists developed into practicians of medicine, corresponding to the licentiates of the Royal College of Apothecaries of London. These men will keep their pharmacies and also do the bulk of the family practice. The ideal is English and emanates from an English overlord, King George.

Between these two millstones, the American doctor, as he has existed heretofore, will be ground to powder. The others will be

DR. ELIE METCHNIKOFF

This distinguished Russian physician, for many years connected with the Pasteur Institute, Paris, has recently passed away. He is best known for his work with the Bulgarian bacillus. This picture is a reproduction of a painting by his daughter, Olga Metchnikoff.

crowded out entirely. It would be wise for physicians located in country districts, where it is absolutely necessary that they dispense their own drugs, to take refuge in the ranks of the pharmacists, in view of the eventualities.

Unfortunately, the warning comes too late. It is not to be doubted that the various state boards of pharmacy will quickly place obstacles in the way of anything like a general irruption of practicing physicians in the ranks of pharmacy. In the mean time, physicians who desire their sons and other pupils to become real doctors had better be careful to send them to such colleges as teach therapeutics. Fortunately, there are still some of these in existence.

In the meantime, we warn our readers that forty-five legislatures will be in session next winter. In many of them, bills will be introduced to "regulate" the dispensing of medicine by physicians. Be prepared for the fight that is imminent *in your own state.*

Leading Artieles

My Experience With Some Old-Fashioned Drugs

By Samuel E. Earp, M. S., M. D., Indianapolis, Indiana

Clinical Professor of Medicine, Indiana University School of Medicine; Clinician, Indianapolis City Hospital, St. Vincent's Hospital, Bobbs & City Dispensary, Robert W. Long Memorial Hospital; Member of Staff, Deaconess Hospital; Lecturer, St. Vincent's School for Nurses, and Deaconess School for Nurses

THREE young men who a year ago had been graduated, from different medical institutions, recently agreed in a conversation that each one of those colleges was almost perfect in its equipment of all laboratories, still, for some reason, when brought face to face with a patient, the stumbling block for each graduate seemed to be a deficiency in his knowledge of drugs and their application. I am under the impression that others have heard this same criticism. Perhaps the therapeutic field has become so vast that it cannot be covered in the course given in the average curriculum.

The therapeutic nihilist was increasing for a time and therapy in many medical journals was sparse and almost a farce. *The Therapeutic Gazette*, The American Journal of Clinical Medicine, and a few other publications kept forging to the front, but elsewhere there was a scarcity of drug therapy. This became noticeable and its influence discernible in the inefficient work of the recent graduate everywhere. This view was generally accepted, and it beame necessary for the medical press to inaugurate a campaign of education. The *J. A. M. A.* gave space to a department of therapeutics, and the trend in this avenue is seen in the makeup of other medical journals.

In my bedside clinics at the hospitals, I do not neglect the pathology and laboratory diagnosis, but I emphasize the methods of palliation and cure. If it is necessary to review physical diagnosis and therapeutics, I do so by a drill early in the course. Furthermore, the best (as well as the worst) of us, unless warned, will collect a few therapeutic cobwebs in our brains. If we have a tendency to specialize in our work, there is some danger of neglecting a study of the things that alleviate or cure.

Those who have read the reports of the "Wine of Cardui trial" in Chicago remember that two witnesses who are authors and of more than local fame got confused concerning Hoffmann's anodyne and quassia, and that, when the lawyer in substance asked, "You have used these remedies but do not know the source or that one is known by another name?" their answer was in the negative. I fear that the proprietary literature, so easy of access, so glowing in language, so positive in assertion now and then, has overshadowed some of the substantial remedial agents. The European war has brought us to a realization of this fact. Prices are high and some drugs are scarce, others can not be obtained; and, of necessity, the rank and file of us have found it opportune to refresh our memories concerning many of the agents which were popular twenty or more years ago.

The reliable agents in many instances may now be obtained in different forms, more active principles are being used. Some are given in smaller doses, but more frequently, until their effect is evident. This is the progressive side of medicine; but it is the old remedy at the base which has furnished the means by which cures can be accomplished. It is not a digression to say that some of these facts were outlined in the "Textbook of Alkaloidal Practice" by Waugh and Abbott which I reviewed in *The Central States Medical Monitor*, now *The Indianapolis Medical Journal*, in 1907. I shall call attention to some of the agents with which we must needs be familiar; and, yet, until "the unpleasantness across the water," some of them were almost abandoned. Perhaps I may only be

reviewing briefly the experience of many of the readers; this, indeed, I hope to be true. At any rate, I shall summarize from my own observation in private and hospital practice.

Aconite and Veratrum

After a "Rip Van Winkle experience" in the case of some practitioners, I am glad, indeed, that aconite is getting its full recognition. For some, aconite is almost a new remedy, while others have refreshed their memories, and still others have continued to recognize it as one of their potent agents in practice.

To those who know, aconite (and aconitine) has been almost a substitute for the lancet. In the acute infections characterized by a high, resisting pulse, skin hot and dry, and vascular excitement, it is unequalled. It cannot be supplanted by any other drug in the first few days of scarlatina, measles, tonsillitis, rheumatism, and in inflammation of the serous membranes. In continued fevers, it should not be used; hence, it is not indicated in typhoid fever, unless during the first few days when there is a safe heart—but it is not necessary. What better can be used in excessive heart action, as for instance in exophthalmic goitre, palpitation from some lesion of the nervous system? Only, there must be here no evidence of valvular disease or dilatation; although even under these circumstances a few give aconite, but with caution. In the diseases of infancy and childhood, it has no superior and no agent can successfully take its place. Furthermore, we are less likely to find a defective heart during childhood. I shall not endeavor to call attention to a score of other indications, being content to mention conditions wherein it is the best therapeutic agent.

Another point to consider is, that it is a positive agent and gives results, and it is not desirable or necessary that it be given indefinitely. It acts, you recognize it at once, and it can be given symptomatically. Its action should be watched. In the hands of the ignorant and careless, it is dangerous, but, given by an intelligent and cautious person, it is reliable and safe. I prefer the tincture in 1-2- to 1-minim doses every twenty to thirty minutes, but discontinue if not needed or there be some contraindication.

In using aconite, there are those who prefer the alkaloid aconitine, and these record as good results as are obtained from digitalin and veratrine. I shall not consider *veratrum viride*, except to say that I recognize it as a remedy that should be prescribed more frequently. Just one point is to consider wherein disappointment follows its use. If the patient is not quiet, the best results cannot be obtained. When the patient under the influence of veratrum has a satisfactory circulation, if he assume an upright position or walk, then the change in the pulse is at once perceptible. When you give veratrum or any of its preparations, keep the patient quiet, get good results, and do not blame a drug for inefficiency when the fault is with patient or physician. This injunction does not apply to this drug only.

Calcium

A number of derivatives from this old remedial agent have proved useful. For many years, I have used the chloride or the lactate in hemorrhagic conditions of typhoid fever and in pulmonary hemorrhage. Beasley has published two reports in *The Indianapolis Medical Journal*, showing his success in the treatment of tuberculosis by intravenous injections of calcium chloride. In *The Boston Journal of Cutaneous Diseases* for October, 1914, White called attention to the use of calcium lactate in the treatment of certain dermatoses. The rationale of its use is based on its property to increase the coagulatory power of the blood and to render the morbidly permeable vessel-walls less permeable. Conditions of an exudative character are suggested. It is appropriate in urticaria, purpura, erythema multiforme, and hyperidrosis. White's formula is:

Tincture of capsicum	m. 8
Calcium lactate	grs. 160
Chloroform water	ozs. 16

Dose: Two tablespoonfuls in water before meals.

During the preparation of an article relative to the use of *sulphide of calcium*, I wrote to six authors for a statement of their experience in its use, but none of them had had any personal experience. This journal kindly published an abstract of the article. I am still convinced that it is a reliable remedy. The files of this journal, so far as my observation goes, will prove its efficasy more than any other publication.

Spirit of Nitrous Ether

Perhaps we forget that there is ample argument for the use of this remedy in the febrile diseases of infancy and childhood. It is a sedative upon the circulation, a diaphoretic, and as a diuretic it maintains the action of the kidneys. We do not fear its toxic effect, and, yet, it is potent. If some of

the heavy drugs are given in small doses, there is no effect, if in large ones, there is danger.

Nitrous ether can be combined with aconite and veratrum viride, if desired. Every little child having an elevated temperature needs plenty of water and, if this agent is put into a glassful of water, frequent sips may be taken, and then, if this plan is followed, very often the patient will soon quiet from its delirium, the skin becomes moist and a calm sleep follows.

Perhaps we may replace the word ephemeral by another, but we all know the little brash of fever often experienced during childhood, though such a condition may have many causes. This can be easily conquered, and quickly, by the use of a tablet of calomel and soda, followed by the agent to which I have called attention. Combinations of spirit of nitrous ether, liquor of ammonium acetate, elixir of hops, and lactucarium, two or more of them, may be made. The late Dr. John V. Shoemaker, the widely known therapeutist, had a favorite formula, which he used in acute bronchitis, acute rheumatism, and fevers, which was constituted as follows:

Sp. Aetheris nitrosi	ozs. 2
Aquæ camphoræ	ozs. 2
Liq. ammonii acetatis	ozs. 2
Antimonii et potassii tartratis	gr. 1
Morphinæ sulphatis	gr. 1-2

Dose: A tablespoonful in water every hour or two, until relieved.

Asafetida

Since I am excluding the agents with which we are especially familiar, those of recent date and those most commonly used, looking for virtue in the older remedies, I necessarily must not be forgetful of asafetida. This is another remedy most efficient in the ailments of infancy. It is serviceable in colic, nervousness, indigestion, flatulence, and even when a carminative or expectorant is needed. Let us say, when a safe though mild antispasmodic is desired. Moreover, in nervous women (especially young girls), and in old men, it can be advantageously given. For an example; a catholic priest who recently returned exhausted from mission work had insomnia. During other attacks, he had been given codeine. I gave him a pill of asafetida, containing 5 grains, each hour until he had taken three. I must confess that, while hopeful, I had some doubt when asafetida had to follow in the wake of codeine, but it relieved his insomnia. This formula may be used:

Mist. asafetidæ	oz. 1
Elix. valerianæ ammoniatæ	oz. 1
Aquæ menthæ piperitæ	oz. 1
Elixir simplicis	oz. 1

Dose: One to two tablespoonfuls in water every two to six hours.

Aloes and Colchicum

Aloes affects the large intestine, increasing the peristalsis, without causing excess of secretion. The action is slow and the stool is softened. On account of its tardy action, I order a saline three hours after the aloes has been taken.

We agree that many conditions are relieved by thorough catharsis, that is, keeping the bowels clean. A number of years ago, a man with whom I was acquainted was given a prescription containing aloes, 1 grain, blue mass, 1 grain, Venetian soap, 2 grains, to constitute 1 pill. He called it M. I. S. T. He heralded it as a cure-all. From its sale alone, he accumulated $200,000. It was advertised extensively.

At one time, no prescription for gout was written unless it contained *colchicum*. In certain arthritic conditions, I like to use the wine of colchicum and iodide of sodium, and sometimes the salicylate of sodium added to the combination.

The length of this contribution is sufficient, otherwise we might review colocynth, conium, elaterium, guaiacum, ipecac, lactucarium, valerian, senna, and others. Some perhaps are objectionable under certain conditions, some are very mild and of little service, while others are powerful in action and deserve continued recognition.

Nonoperative Gynecology

By William Rittenhouse, M. D., Chicago, Illinois

Professor of Obstetrics, Loyola University

EDITORIAL NOTE.—This is the second in the series of articles upon nonoperative gynecology which Professor Rittenhouse is contributing to this journal. This is a topic in which every general practitioner is interested; therefore we believe that every succeeding instalment of this series will be eagerly welcomed by every reader of this journal. Professor Rittenhouse will be glad to answer any questions, and we hope that the series may bring out many comments.

[*Continued from July issue, page 576.*]

Urethral Caruncle

WHILE we hear comparatively little about urethral caruncle, yet, it is a condition capable of causing a great deal of suffering. Such a growth often goes unrecognized and the symptoms it produces are referred to other causes. It occurs with considerable frequency especially after the menopause, if I may judge from my own observation; for, I have never seen this condition in a woman under twenty years of age, while more than half of my subjects have been over fifty.

Urethral caruncle is a little newgrowth in the meatus of the female urethra; occasionally it is located higher up in the urethra, but I have never found one further than half an inch from the meatus. Usually it is plainly visible on inspection, only rarely a urethral speculum being needed to expose it.

The shape of these excrescences varies greatly. A few have a distinct pedicle like a polypus, but most commonly the growth is sessile, like a wart; occasionally it is of a diffuse form, appearing as a thickening of the urethral mucosa around half of its circumference or more. In size it varies from that of a large marrowfat pea down to that of an insignificant pimple.

The two most characteristic features of this growth are its color—which is a very dark-red, contrasting strongly with the pink mucosa — and its exquisite sensitiveness. One patient described the sensation caused by merely touching it with the finger as "nerveracking." Another compared it to touching the nerve of a tooth with a dental drill. Because of this extreme sensitiveness, the effect of this little growth upon the patient's nervous system usually is considerable, sometimes extreme. I saw one such victim who, because of it, seemed to be on the verge of insanity.

The etiology of these caruncles is not always clear. I believe the most common cause to be long-con ued hyperacidity of the urine; this belief eing founded upon a number of cases in which there was a tendency to relapse after successful treatment, while upon changing the diet, so as to reduce the acidity of the urine, this tendency to relapse disappeared. So far as I can recall, my patients have all had very acid urine when they first presented themselves for treatment. I may say here that every doctor ought to have the means for measuring urinary acidity. The acidimeter sometimes described in the advertising pages of this journal is simple, inexpensive, and readily used.

The Symptoms and Diagnosis

The principal symptoms produced by caruncle are, dyspareunia, and pain which is referred to the urethra or bladder. The latter often causes the mistaken diagnosis of cystitis, but the bladder pain is more properly a neuralgia, sympathetic with the urethral irritation. Treatment for cystitis sometimes gives temporary relief, because washing out the bladder with hot solutions has a soothing effect on the neuralgia, and the use of alkalis by mouth diminishes the acidity of the urine. I am not convinced that caruncle ever produces true cystitis; in the few cases in which I have found the two associated, the women had been catheterized and may have been infected by the catheter.

The diagnosis of this condition is not difficult, and a mistake can scarcely occur except as the result of careless examination or none at all. Quite a number of my patients reported having been treated by internal medication, without a local examination having ever been made; but the acme of diagnostic obtuseness seems to have been reached in two of them, in whom washing out of the bladder had been attempted, but abandoned on account of the excruciating pain caused by attempting to introduce the catheter—and all this without discovering the true condition!

It is not pleasant to criticize one's confrères, but there is no disguising the fact that some members of the profession stand in need of the injunction which was repeatedly hurled at my class at college by one of the most respected of my old professors: "Gentlemen!"

he would say, "if you forget everything else I have taught you, remember this: Examine! Examine! ! Examine! ! !," uttered crescendo, and each repetition emphasized with his fist.

The diagnosis can readily be made by inspection. The exquisitely sensitive, dark red growth can not easily be mistaken. Only when the caruncle is higher up in the canal is a urethral speculum needed.

The Treatment of Urethral Caruncle

The treatment which gives good results in the majority of instances is, cauterization. A probe is wound with cotton and dipped into a 4-percent solution of cocaine. If this be roughly pushed into the urethra the pain will be very severe; but this is quite avoidable. First apply the cocaine to the visible portion of the growth; in a few minutes that will be sufficiently deadened to permit the probe being inserted a little farther, and so gradually the first half inch of the urethra may be thoroughly cocainized. A pointed pencil of nitrate of silver is now inserted and revolved for a few seconds until the whitening of the diseased tissues shows that the caustic is taking hold. It is best not to make the cauterization too severe. The object is not, to destroy a large amount of tissue (which might result in cicatricial contraction and stricture), but rather to cause absorption of the diseased tissue in the ten days or two weeks following the application. Care should also be taken not to introduce the caustic too far into the urethra; the pain will be intense if it touches the uncocainized mucous membrane.

The cauterized area should be allowed to heal thoroughly before another application is made. This healing will require ten days or two weeks, according to the severity of the cauterization. During this interval, a certain amount of absorption of the pathologic tissue will take place, and upon this absorption will depend the number of treatments required for a cure. Usually from three to five applications will suffice, if the proper interval is allowed between them; while, if they are too close together to permit perfect healing, an amount of inflammation will result that delays the cure. These cauterizations should be continued until a catheter can be passed without giving pain.

One naturally would expect that for a few days following a cauterization urination would be very painful; but the opposite usually is true, the patient experiencing a degree of relief to which she has long been a stranger.

If the growth has a pedicle, it should be snipped off, under cocaine, before the caustic is applied. If it is sessile, excision usually causes more pain than will cauterization. Some doctors prefer excision, because then the treatment is concluded in less time. For this reason, patients from a distance sometimes are subjected to it, because they do not wish to remain in the city for five or six weeks. But, whenever it is possible, I prefer cauterization, as in my experience it has caused less pain and no strictures, while several of the latter have come under my notice where excision had been performed.

A Few Illustrations From Practice

Perhaps I can best illustrate the variations that are met with in these cases by describing a few clinically.

Mrs. C., aged about 24, married about two years, never pregnant, suffered intensely from dyspareunia. She had become almost a nervous wreck, was melancholy, indifferent, and latterly had dysmenorrhea. Her husband told me that when he married her she was of a happy, cheerful disposition. (This was the patient referred to in my last month's article.) Like the woman told of in the Scriptures, she had suffered many things from many physicians, and was nothing bettered. In her home city, she had been subjected to a laparotomy and was told that her ovaries had been removed; but, as she afterward became pregnant, the removal, if done at all, certainly was not a complete one.

Upon taking charge of her, I quickly located a caruncle in the urethra, about a quarter of an inch up. This fact probably accounts for its not having been discovered by her other doctors, although it could be exposed even without using a speculum. It was of the size of a small pea, slightly pediculate, and had a considerable base of diseased tissue. After thorough cocainization, I snipped off the pedicle and cauterized the base with a pencil of silver nitrate. Ten days later, she reported great improvement. I cauterized mildly at intervals of a week or ten days, and in about six weeks, as nearly as I can recall, she was entirely well.

Miss L., aged 26, virgin, had a sessile caruncle near the meatus. The principal symptoms were painful micturation and neuralgia of the bladder. She lived in a distant city. Her physician had correctly diagnosed the condition and treated it by cauterization, but without success. Whether the failure was unavoidable or due to faulty technic I have no means of knowing. I advised a more thorough trial of cauterization, and excision as a last resort. The doctor re-

sorted to excision at once. The lesion was cured, but stricture resulted.

Mrs. L., aged 83, mother of four children, consulted me for cystitis. Her urine contained pus and mucus, and she had been repeatedly catheterized two years before. Micturition was very painful. Inspection revealed a sessile caruncle just within the meatus, of the size of a small pea. As I saw her at her home and the bladder symptoms were urgent, I tried to wash out the bladder with boric-acid solution, but the attempt to introduce the catheter was so painful that I was compelled to desist. I then proceeded to cocainize the urethra and cauterized the caruncle. Immediately thereafter I was able to wash out the bladder, to the great relief of the woman. I repeated this irrigation daily for some time, applying cocaine to the urethra for the first few days. The caruncle was cured long before the cystitis was.

Mrs. E., aged 49, married, but childless. She experienced pain on sitting down, and was troubled by bladder neuralgia and painful micturition. Her doctor had diagnosed cancer of the bladder and told her husband there was no help for her. The error in diagnosis resulted evidently from two unusual features of the newgrowth, namely, that it bled a little at times and its shape was somewhat uncommon. It was neither pediculate nor wartshaped, but involved the entire circumference of the urethra. The mucous membrane for the first half inch was much thickened, everted, and presented the characteristic color and sensitiveness. The woman's revulsion of feeling may be imagined when I assured her that she had no cancer, was not doomed to die, and would be well in a few weeks. Five cauterizations spread over about eight weeks produced a thorough cure.

Mrs. W., aged 60, mother of five children, was troubled by neuralgia of the bladder and retention of urine, which exhibited ammoniacal decomposition. A prompt cure resulted from treatment by cauterization and the washing out of the bladder with boric-acid solution. For almost a year she showed a tendency to a recurrence of the trouble, owing to the great acidity of her urine; however, the administration of potassium acetate and an occasional mild use of the caustic finally ended these relapses.

Where hyperacidity of urine is persistent, the continual taking of the potassium salts is not advisable, and then it is better to reach the condition through the diet, by cutting down the meat (especially beef) and eating plenty of vegetables, including spinach, stringbeans, asparagus, lettuce, cabbage, turnips, and the like. Whole-wheat bread should be substituted for white bread.

Mrs. M., widow, aged 32, mother of one child, had severe neuralgia of the bladder, complicated by hysteria, and her condition was diagnosed as cystitis. She was kept in bed for three weeks and dosed with urotropin, but without being benefited. The next diagnosis was ovaritis and ovariotomy was advised. When she came to me, I found a small sessile caruncle near the meatus, which promptly disappeared, and she got well, after three cauterizations.

In closing this article, I want to emphasize two points, namely, the importance of careful examination and the superiority of mild over severe cauterization. Instead of violently destroying the pathologic tissue, I prefer to stimulate nature to absorb it.

THE spice of life is battle; the friendliest relations are still a kind of contest; and if we would not forego all that is valuable in our lot, we must continually face some other person, eye to eye, and wrestle a fall.—Stevenson.

What the General Practitioner Can Do in the Treatment of Chronic Diseases

By George F. Butler, M. D., Kramer, Indiana

Medical Director of The Mudlavia Sanitarium

[*Continued from July issue, page 589*]

THE majority of doctors find the treatment of chronic diseases a very serious stumbling-block in the way to reputation and financial prosperity. The reason is, that they follow routine ways or some fad, instead of going about their work systematically, seeking out and applying correct principles, formulating a definite plan and adhering to that persistently.

Three Cardinal Principles Involved

The three cardinal principles in the treatment of chronic diseases are: (1) rest, (2) fasting, and (3) appropriate drug-treatment. As a matter of course, these principles must be applied with judgment.

Rest, for instance, does not mean that a man shall drop his work, go home, pull off his boots, climb into bed, and remain flat on his back indefinitely. True, he may need rest in bed or in a hammock, with cool breezes playing about him. But, also, he may need rest from whisky, heavy dinners, mental excitement. Rest for the overworked stomach, the paralyzed bowels, for the nervous heart and strained nerves, the tired brain may be secured in a variety of ways. Lying down perfectly still and relaxed for short intervals is a very good way to secure rest for heart, brain, and nerves—will "pull one together" in an astonishing way, and, constantly practiced, it undoubtedly lengthens one's term of life.

In chronic diseases, the nutritive processes are abnormal. Waste is not promptly and properly eliminated—it accumulates. The system does not reduce its anabolic products to their lowest terms, thus causing friction and making the work of elimination all the harder. It is a great mistake to add further to the difficulty by giving more and more food to patients in whom the process of nutrition stagnates. Food will not be transformed into nourishing red blood unless the system needs it and there is appetite for it. To eat food under such conditions, simply means to obstruct the circulation with an improperly digested, nonvital pabulum which increases the torpor and burden of the system, depressing the recuperative impulse.

Fasting rests the heart, making its work easier; it rests the stomach and bowels, enabling them to store secretory and peristaltic power; it lowers blood pressure, flushing the area of elimination; it increases the ingestion of water, and softens and relaxes the entire body, so that the work of cleaning can proceed with greater rapidity and with the least expenditure of vital force.

Fasting may be absolute for one day or for several days; it may be partial, by abstaining from one meal or two meals or by adhering to a very light diet. But, we should always avoid extremes and hobbies. Rather, we should make successful experience the sole judge of the value of our methods and be prepared to discard them for others if unfavorable symptoms develop at any particular time.

Thoughts of Some Authorities About Resting

In discussing the subject of rest, I can fully subscribe to what the late John Hilton has said:

"In my reflections on the subject of rest as a curative agent, my mind naturally reverted to that period of man's existence when it was the sole curative means of which he could avail himself. I could but picture to myself the timorous awe which must have been engendered in his mind by the first accident which happened to him. Let us imagine our first parents suddenly thrust out of the Garden of Eden and doomed to toil for their daily bread, with hands unused to labor, inexperienced in the substitutes for unnecessary exertion and in the avoidance of local injury, and exposed to all the accidents of a precarious existence. Let us try to realize the awestricken dismay which must have oppressed man's mind on the infliction of his first wound, his first experience of pain—the breach of surface disclosing to his sight his blood flowing unceasingly or leaping, at sustained intervals, from its opened chambers, his sense of fainting and his ultimately sinking on the earth under the foretaste of death; this, too, with the recent denunciation "Thou shalt surely die" still ringing in his ears. Can words depict the hopeless anguish which he must have endured? But what follows?

See him awakening to life again, the stream of blood stayed, the chasm plugged, his strength revived, and day by day that wound—which he regarded as the badge of death, the vengeance of the Creator's wrath—narrowing and healing, till it could hardly be seen.

"I have made these observations for the purpose of showing the original promptings of nature to man, for the alleviation of what must have necessarily befallen him in his altered condition. Pain was made the prime agent. Under injury, pain suggested the necessity of, and, indeed, compelled him to seek for, rest. Every deviation from this necessary state of rest brought with it, through pain, the admonition that he was straying from the condition essential to his restoration. He must have observed with astonishment the breaking asunder of the newly formed tissue or the steady development into normal structure, which occurred in exact accordance with the disturbance or rest to the parts, which the sense of pain had enabled him to regulate so accurately, and to employ so beneficially for his own personal relief and comfort."

Rest and Growth

Growth is the antitype of repair, prefiguring the physiological capabilities of existing structures to repair themselves. Without digression, I may say that so intimate is the association between rest and growth as to make them appear, upon a superficial contemplation, to stand to each other in the relation of cause and effect. Accurate observation of the animal and vegetable world certainly reveals their perpetual coexistence; and growth, as a rule, seems to proceed, *pari passu*, with physiological rest.

Another writer, Mr. Ward, says: "All plants require rest, and obtain it, in some countries, by the rigor of winter, in others, by the scorching heat of summer. Cultivators often fail in their attempts to grow certain plants from want of attention to this essential part. Thus most alpine plants, which enjoy an unbroken rest under the snow for several months, are very difficult of culture in our mild and varying winters. The winter of 1850–51 was ushered in by some heavy falls of snow, with which I filled my alpine case, giving the plants a perfect rest of three or four months, and with a most satisfactory result: the Primula marginata, Linnæa borealis, and other species flowering much finer than usual. Many of these beautiful plants would, I am convinced, succeed well if kept for five or six months in an ice-house.

"Plants, in hot countries, have their periods of rest in the dry season. In Egypt, the blue water-lily obtains rest in a curious way. This plant abounds in several of the canals at Alexandria, which, at certain seasons, become dry; and the beds of these canals, which quickly become burnt as hard as bricks by the action of the sun, are then used as carriage roads. When the water is again admitted, the plant resumes its growth with redoubled vigor."

Also, our great master on physiology, John Hunter, has not left this particular field unexplored, for we find, not only in his published works, but in others which remain in manuscript, that the subject of rest occupied no inconsiderable portion of his attention. "Most plants," he tells us, "close their leaves, others their flowers, at particular hours of the day or night; and with such regularity does this period of rest take place that more than one vegetable physiologist has proposed to construct from them a floral clock." As a matter of fact, the great Linnæus had such a floral time-piece in his garden, as have had other botanical gardens after him.

We all know how eagerly rest is sought for by the lower animals, especially in periods of suffering from injury or disease—how they endeavor to escape from the prying curiosity of man, in order that the injury may be the more speedily repaired.

The value of rest in fostering the production of that highly organized animal-tissue that forms so large a portion of our staple food, is well known to the stockkeeper and grazier. A homely illustration may be found in the fact that in infancy the child which sleeps much thrives best. *Mutatis mutandis*, the observation is equally true, that the wakeful, restless child seldom displays the same evidence of active nutrition. Doubtless all will admit that in infancy development is in its highest state of activity and that the healthy infant passes the greater portion of its life in a state of rest and sleep. Growth—the renewal of some parts, and the fresh development of others—seems thus to claim sleep and rest as its helpmeets.

Repair is but the repetition of growth: the same elements, the same kindred conditions are necessary to the same results. Rest is the necessary antecedent of the healthy accomplishment of both repair and growth. This surely is the natural suggestion of a means toward an end that never must be lost sight of by the physician or surgeon. For example, children who are ill and lose their rest waste very rapidly, more rapidly in pro-

portion than do older people; but as soon as the morbid condition subsides and rest asserts its power, the recovery or repair becomes extremely active, accompanied by an increased tendency to sleep; sleep supplying the great desideratum previously required.

The interruption of rest by local disease occurring to persons in the middle period of life does not cause the same degree of exhaustion and wasting as in the young. They bear the loss of sleep better, because their constitution has to sustain the stress of repair only—not of both, development and repair, as in the child. Their recovery is slower; their subsequent sleep is not so profound nor so prolonged, nor their rest so complete. The defective sleep and slow repair that manifest themselves in the old after injury of any kind are familiar to us all.

What I have here endeavored to inculcate is, that growth and repair bear an exact relation to due physiological rest, local and general.

Brain Activity Versus Rest

Let me employ a familiar example to illustrate the effect of rest on the brain, by referring to any overworked member of our own profession. Free from structural disease, but worn and appearing prematurely old from exhaustion by mental labor—not physical exertion—he takes his holiday. The doctor's rest from professional duties consists in riding, walking, shooting or fishing. It is physical exertion which he selects for his relaxation; but during the same period he carefully excludes all worry, all mental strain. Under these circumstances, I conceive, some portions of his brain are nearly at rest, while others are occupied with their appropriate function of regulating muscular exertion. This man is, in fact, calling into activity the latent or suspended functioning of the cerebral centers, leaving the higher, the intellectual part of the brain to work out its own recovery from overfatigue or exhaustion by rest; that is to say, by being relieved of its own peculiar function or activity. After a time the vacationer returns greatly invigorated, improved in general appearance, active, with mental vigor replenished, and equal to almost any amount of professional exertion that may present itself, without fear of fatigue to his brain.

Let me offer this additional observation regarding the beneficial influence of rest, that is worth remembering: Those persons who drop off to sleep quickly, anyhow and anywhere, and sleep soundly, undisturbed by active dreaming, are, *cæteris paribus*, capable of sustaining a greater amount of mental and corporeal exertion than those who find it difficult "to get off to sleep," who sleep lightly, and, dreaming much, awake but little refreshed.

Bearing on this subject, I, like others of our profession, have had repeated occasion to observe the effect of overwork upon men who use their brains with an expenditure of energy inconceivable to the thoughtless men of widespread mercantile affairs, men engaged in money-transactions on a large scale and involving much anxiety. The condition of such of my patients attested the applicability of these remarks by their mental and physical exhaustion, by their depression of spirits, and by their want of self-confidence. Yet, in the case of such men, their restoration to health has been made complete by mental leisure, by "going out of town," and by taking plenty of exercise in the open air, while abstaining from the real disturbing cause, their business.

Nature's Methods of Securing Physiologic Rest

Having thus very briefly and very imperfectly reviewed the subject of rest in relation to the body generally, let us inquire into some of the expedients which nature adopts to secure the same end in its individual organs.

All viscera (as in the case of the brain, to which I have already alluded) require the alternate condition of activity and rest in order to keep them vigorous and in health. If this condition is not fulfilled, structural changes and deterioration of function are sure to follow. Indeed, concerning the etiology of the diseases of individual organs, it may be asserted that a large proportion of them originates in circumstances which deprive any organ of that rest which by nature is required for the performance of its healthy functioning.

Take, for example, the heart. When overtasked by constant overstrain, as in disease of its valves or the large vessels, or by excessive athletic exercises, and thus deprived of its appropriate rest, this organ becomes liable to the various alterations in its structures that postmortem examinations daily reveal. The liver, unduly stimulated by excessive potations, by needless amounts of food, or by habitual irregularity in one's diet (its physiological harmony with the other organs of digestion being thus constantly disturbed), glides into disorganization, for the same reason. The kidney, too, if its functions be disturbed by the abuse of alcoholic drinks,

which entails an unnatural and continued stress either upon its malpighian or tubular portion, manifests the same tendency to structural decay as a consequence of its loss of needful rest.

Dr. Milner Fothergill ("Practitioner's Handbook," p. 388) has pointed out another fertile source of disturbed rest in the case of the kidney, and also how to mitigate it. "This knowledge [that urea is largely derived from the splitting up of albuminous material in the liver as well as from disintegrating tissues] has enabled us to relieve impaired kidneys by diminishing the amount of work they have to do. A large amount of the nitrogenized food we take is unnecessary and is not required for tissue building; a comparatively small amount only of nitrogenized matter daily is sufficient for that purpose. We take it because we like this form of food and because the stimulating properties of nitrogenized substances render them agreeable. The energy of the meat-fed man, as compared with the vegetable-eater, is distinct and marked, but gout and other troubles are its inseparable alloy. There is a Nemesis behind the force-manifesting animal food. The presence of large quantities of waste nitrogen in the blood maintains the kidneys in a state of high functional activity, and the hyperemia of active function in time leads to the production of connective tissue in excess. Such is the origin of many cases of chronic renal disease; such, indeed, is the natural history of interstitial nephritis, of the contracting, granular, cirrhotic or gouty kidney."

It is, I believe, an admitted physiological axiom, that each structure or organ, while actively employed, is in a state of vascular excitement or turgescence, and, therefore, enlarged during that time.

So, it is noticeable that each organ of the body that is liable to a rapid supervening of activity in its proper function is so placed in relation to surrounding structures as to permit of temporary enlargement during the persistence of that activity. When the organ returns to the state of rest or period of self-reparation, it may be said to have resumed its normal, or standard, dimensions.

Secreting organs, in some of which vascular turgescence is extreme and prolonged, are relieved of their excessive congestion by their tubular outlets. The elasticity of the enclosing capsule exerts its beneficial effect toward the same end by inducing centripetal pressure, and this tends to diminish the size of the organ as soon as, its function performed, its state of physiological excitement begins to diminish. The elastic capsule thus maintains the healthy quiescent size of the organ.

The liver is enclosed within a strong elastic peritoneum and it has also its proper elastic, but thin, capsule; and I may add, as probable, that the tissue found in Glisson's capsule, surrounding the portal vessels, and so on, in their distribution within the liver, may influence their condition by its elasticity. These forces, aided by the contractile power of the blood-vessels themselves, bring the liver back to its condition of rest and maintain it; thus allowing the individual minute secreting parts to recover their physiological strength and their tone.

Again, the liver is so placed as to have the additional advantage of pressure from without, by its being subject to the contractile power of the muscular walls of the abdominal parietes and the diaphragm, especially so during exercise and increased respiration. This no doubt explains the benefit of walking-exercise in cases of congested or torpid liver, at which occasions the liver is compressed between the diaphragm and the respiratory part or upper half of the abdominal parietes.

Oliver Wendell Holmes ("Autocrat of the Breakfast Table," p. 66), treating of the value of walking, rowing, and riding, writes thus of the influence of the latter upon the liver:

"Saddle-leather is in some respects even preferable to sole-leather. The principal objection to it is of a financial character. But you may be sure that Bacon and Sydenham did not recommend it for nothing. One's hepar, or, in vulgar language, liver—a ponderous organ, weighing some three or four pounds—goes up and down like the dasher of a churn in the midst of the other vital arrangements, at every step of a trotting horse."

I would here suggest that every squeeze of the liver upward, in any of the exercises named, must send a squirt of venous blood through the inferior vena cava into the closely contiguous right auricle, while every downward movement draws open the same vein slightly in readiness for the next upward jet.

[*To be continued.*]

Vaccine- and Serum-Therapy in Everyday Practice

VII. Infections of the Skin and Subcutaneous Tissues (Continued)

By W. C. Wolverton, M. D., Linton, North Dakota

[*Continued from July issue, page 592.*]

Erysipelas

As was remarked when we were considering the subject of cellulitis, erysipelas is the most typical form of that disorder, and is caused by a special variety of streptococcus, namely, the streptococcus erysipelatis of Fehleisen, a microorganism of extreme virulence. However, cultures made from cases of erysipelas always show staphylococci in great numbers coexisting with the streptococci. Consequently, in the bacterin-treatment of this dangerous malady, it has become quite customary to use a polyvalent combined stock bacterin, containing, in addition to the specific streptococcus, the various staphylococci, or at least the staphylococcus albus.

Owing to the extreme virulence of the specific etiologic agent and the consequently rapid course of the disease, autogenous bacterins are impracticable; besides, the reports of many competent observers show that stock bacterins yield brilliant results in erysipelas.

The initial dose, for adults, of the combined bacterin should contain about 20 million streptococci, combined with 100 million staphylococcus albus. If some improvement is not observed within twenty-four hours, the dose should be repeated, but increased by 25 percent.

The first dose of bacterin rarely stops the spread of the disease, there being usually some extension during the ensuing twenty-four hours or so. But in most cases a change will be noted in the color of the infected skin, from an angry red to a darker, brownish-red; the usually sharply defined and elevated margin now shows little or no elevation and shades off gradually into the surrounding skin. Relief of pain and burning is usually experienced by the patient within a few hours.

The streptococcus does not stand heat well; so, heat, locally applied is of considerable value.

Iodine ointment, U. S. P., with ichthyol, 25 percent, applied to the infected area and well out into the apparently uninvolved tissues is a time-tried remedy. Some writers advocate the local application of undiluted phenol, to cause desquamation; but, personally, I prefer applications of iodine and ichthyol, as just recommended.

One other external measure merits mention, namely, a dressing kept saturated with 95-percent alcohol. Pawlowsky's laboratory tests show that this rapidly destroys the streptococci. It strikes me that the addition of tincture of iodine, 10 to 15 minims to the ounce of the alcohol, might enhance its bactericidal properties.

For internal administration, the indicated remedies of merit are calcium sulphide, strychnine arsenate, quinine, and tincture of ferric chloride. Or the iron, quinine, strychnine, and arsenic may conveniently be administered in the form of the triple arsenates, which certainly is a much more agreeable preparation than quinine sulphate and tincture of ferric chloride.

Paronychia (Felon, Whitlow)

In this class of infections, the staphylococci are almost invariably the infective agents; but in those cases in which the bone is involved the Bacillus tuberculosis is sometimes the causal organism.

If these cases are seen *early*, bacterin-treatment gives good results. If pus is present when the case is first seen or should it subsequently develop, incision will be necessary, with dressings kept saturated with Wright's citrate solution. A very useful measure, in conjunction with bacterin-treatment, in early cases, is, to wrap the finger with a thin layer of absorbent cotton and saturate the latter with 95-percent alcohol, then drawing a rubber finger-cot over the alcohol-wet dressing. This treatment has given extremely satisfactory results in my own practice and has been highly recommended by others. It often aborts the felon. Calcium sulphide, internally administered, acts synergistically with the bacterin-treatment.

Furunculosis (Boils)

To anyone who is going through the harrowing experience of a "crop of boils," any method of treatment offering promise of a speedy cure "sounds good." Such a sure

and speedy cure is easily obtainable through the use of two remedial agents, namely, stock combined staphylococcus bacterin (polyvalent) and calcium sulphide. The dose of the bacterin should be about 100 million of each variety of staphylococcus present in the bacterin, for the initial dose. The dose should be repeated every two or three days, slightly increased, if marked improvement does not soon take place. As the condition improves, the interval is to be lengthened to five or seven days. When the attack seems entirely past, a dose of about 500 million of the combined staphylococcus aureus, albus, and citreus should be administered at monthly intervals, until all danger of recurrence is past.

The calcium sulphide is to be given *to saturation*, as heretofore explained.

A local application that often gives considerable relief is cataplasm of kaolin applied "hot and thick," as we have so often been told.

When suppuration occurs, the pus must, of course, be evacuated. Sometimes this may be accomplished by aspiration, using a hypodermic syringe as aspirator.

These patients are usually benefited by the administration of a hematinic, such as the improved Blaud's mass or the triple arsenates.

Attention is also to be given to the bowels, to get rid of autotoxemia. Here, the proper use of calomel and saline laxatives is indicated.

Fistulas and Sinuses

These conditions are mostly chronic in nature; hence, we should logically expect to find a "mixed infection" present; and this is quite commonly the case. The Bacillus tuberculosis is probably the most frequent *primary* invader; but soon the pus-group of cocci gain entrance, and a "mixed infection" is in evidence—so much so, ofttimes, as to conceal the real primary invader.

The nature of the bacterial flora will depend considerably upon the surface upon which the fistulous tract opens or the cavity with which it connects the external world. For example, false passages communicating with the lung or pleural cavity are commonly infested with the Bacillus tuberculosis, pneumococcus, streptococcus or the Bacillus influenzæ; in those connected with or situated near the intestinal canal, we naturally should expect to find the Bacillus coli communis, Bacillus proteus vulgaris (group), and the pyogenic cocci; if the fistulous tract opens upon the surface of one of the extremities, then the staphylococci and streptococci are likely to be the invading germs.

If possible, a microscopic examination, at least, of the discharge should be made, so as to determine the nature of the offending microorganisms. Then the appropriate bacterin may be selected intelligently. Ofttimes, in these cases of an essentially chronic character, autogenous bacterins will be indicated; however, resort should first be had to the polyvalent stock preparations, for usually they are efficacious if they contain the essential organisms.

In the bacterin-treatment of these fistulas and sinuses, there is constantly a tendency to close at the outside, only to break down later. One should make sure always to pack the fistulous tract lightly with a wick of iodoform-gauze, so as to have the tract close *from the bottom*.

Again, owing to the characteristic chronicity of these cases, it will generally be found, in old cases, that the tract is surrounded by a dense "pyogenic membrane," or wall consisting of leukocytes, coagulated fibrin, and cellular detritus. This may with profit be removed by careful curettage. Then pack with gauze saturated with citrate solution, to facilitate the outflow of antibody-laden serum.

If a foreign body exists, such as (in osteomyelitis, for example) a sequestrum of bone, we naturally do not expect the administration of a properly selected bacterin to effect a cure until we have first removed that foreign body. This fact is too often overlooked and, thus, bacterin-treatment is unjustly charged up with failure.

Where, after the infection has been overcome by proper bacterin treatment, the fistulous tract shows no disposition to close, it can be stimulated by packing with a narrow strip of iodoform-gauze dipped in balsam of Peru. These being chronic conditions, the bacterins will be employed in fairly heavy dosage, at comparatively long intervals of from a week to two weeks and extending over a long period of time, perhaps several months or even a year or more.

The initial dose of the streptococcus, pneumococcus, and bacillus coli should be from 30 to 50 millions; that of the various staphylococci about 100 millions of each variety present.

In these cases, owing, again, to their chronicity, anemia is very prone to be a concomitant factor. In such a case, the triple arsenates are indicated. If the case be

tuberculous, then codliver-oil undoubtedly is of value. Made into an emulsion with fresh eggs (both white and yolk) and flavored with a small quantity of methyl salicylate, it is quite palatable.

In writing upon the treatment of fistulas and sinuses, one must not forget the "Beck treatment," that is, a paste composed of bismuth subnitrate and petrolatum, sterilized, injected under moderate pressure into the tract. This method of treatment has sometimes effected a cure when all else had failed.

Impetigo Contagiosa

This infection is due to the streptococcus or to the various staphylococci, especially the staphylococcus aureus. The dosage of a bacterin is from 30 to 60 million streptococci and 50 to 100 million staphylococci for the initial dose; which may be increased somewhat if speedy improvement does not ensue. The interval should be from four to seven days.

As to local treatment, I remove the crusts and blebs and paint the affected surfaces with full-strength tincture of iodine. In this way, the spread of the infection is soon stopped. I then give the patient a small quantity of the same tincture, with instructions to open each vesicle or bleb as soon as it appears and paint the raw surface with the iodine. In chronic cases, it is often advisable to prescribe an ointment containing iodine ointment, U. S. P., and balsam of Peru, 1 dram of each, zinc-oxide ointment, 6 drams; this to be applied freely, once or twice daily.

The patient should, of course, be informed as to the infectious and autoinoculative nature of the disease, and warned against scratching with the finger-nails.

Calcium sulphide and quite often the triple arsenates are the indicated remedies for internal administration.

Sycosis (Barbers' Itch)

It was in this particular class of cases that Almroth Wright scored his first notable successes, and it was his unvarying good results in these stubborn infections which encouraged him to go on and further develop and broaden the field of bacterin-therapy.

The disease consists in an infection of the hair-follicles of the beard by the Streptococcus or the Staphylococcus aureus and is exceedingly resistant to treatment by ordinary means. I well remember that our professor of dermatology cautioned us to tell our sycosis-patients that, while we could cure them, it would in all probability take six months to accomplish this much to be desired result.

The dose of bacterin and the interval are about the same as those given for furunculosis and eczema. Epilation and local hot citrate fomentations are measures of value.

Calcium sulphide to saturation is advisable as internal treatment.

Ulcers

The bacteriology of ulcers covers a wide range of microorganisms. Many ulcers are either tuberculous or syphilitic, primarily; but these soon suffer secondary invasion by the members of the pyogenic group of bacteria. Other ulcers may be the result of an aggravated case of varicose veins, a slight trauma often being sufficient in these cases to cause the devitalized tissues to break down, with the consequent production of an ulcer.

In any case of chronic ulcer, a combined bacterin containing the various members of the pyogenic group should be administered, for overcoming the secondary infection. The affected part should be put in that position which is most favorable to promote the circulation, that is, somewhat elevated, especially when the ulcer exists upon the lower extremity. Citrate dressings should be applied, to promote the outflow of lymph. When the floor of the ulcer presents a thick layer of indolent granulation-tissue, careful curettage is indicated.

In syphilitic ulcers, it is self-evident that systemic treatment is demanded; the local condition will not greatly improve until the underlying disease is overcome. For local application, calomel or the oldtime black-wash are time-tried remedial agents of great value.

In the case of tuberculous ulcers, one must again depend to a great extent upon the treatment of the underlying condition. This treatment consists quite largely of proper hygiene and diet.

In varicose ulcers, an elastic bandage is of great utility.

In the case of any ulcer, after the pyogenic infection is controlled by means of bacterin-therapy, the application of local stimulating remedies is in order; the most useful of these being silver nitrate, balsam of Peru, and scarlet-red ointment. Ofttimes, painting the ulcer with tincture of iodine is of benefit.

Chancroidal ulcers yield to cauterization with nitric acid carefully applied on a glass rod, and followed by copious dusting with

iodoform or other iodine-containing dusting-powder.

In old ulcers of the shin that do not show a willingness to heal after the use of bacterins, curettage, and the local application of one or more of the stimulating remedies named a short time ago, skin-grafting may become necessary.

To secure a successful result from skin-grafting, the infection must first be overcome by the use of bacterins, possibly curettage to remove lowgrade tissue, the application of stimulating substances, to promote the formation of healthy granulations; the grafts, when placed, must be held absolutely immovable until they become firmly attached; and provision must be made for the taking up of such serum as exudes, without disturbing the grafts. A light, easily sterilizable rubber-netting is obtainable that will hold the grafts firmly in position and at the same time permits a free escape of serum, to be taken up by sterile gauze applied outside the rubber-mesh material.

The grafts need not be large; I like to make them about the size of the head of a small finger-nail. They may be placed about one-fourth to one-half inch apart, depending upon the size of the surface to be grafted and the willingness of the donor of the grafts to furnish either a considerable number of them or only a few. The patient must be kept at rest in bed, with the leg elevated upon pillows, until the grafts have firmly taken hold and cutification is well under way.

This completes our consideration of the bacterin-treatment of the more common diseases of the skin and subcutaneous tissues. In our next chapter, we shall take up the treatment, by means of bacterins and synergistic remedies, of diseases of the bones and joints. [*To be continued.*]

Rocky Mountain Spotted Fever

By Dewitt P. Heiggs, M. D., Fairfield, Idaho

EDITORIAL NOTE. This disease is of so much interest to physicians practicing in the Rocky Mountain states that we hope Doctor Heiggs' paper may be carefully read and discussed freely—especially from the standpoint of diagnosis and treatment. We call special attention to the paper by Dr. Charles S. Moody, published in December, 1915, page 1102.

ROCKY MOUNTAIN spotted fever, also variously known as Rocky Mountain tick-fever, or simply, tick-fever, black fever, spotted-fever, and blue-disease—is an acute infectious disease of man and is characterized by a sudden onset with a chill, followed by continued fever, intense headache, severe pains in the back and back of neck, general muscular soreness, and a macular eruption, becoming petechial, which appears first on the ankles and wrists and later spreads to all parts of the body.

The history of this infection is somewhat interesting. It has been known in the Bitter-Root Valley of Montana for over forty years. The first recorded cases occurred in 1873, though it is probable that there occurred a few cases even before that. By this time, this disease has become endemic in the Bitter-Root Valley and also in the elevated vallies of Idaho, Utah, Wyoming, and Oregon. It appears in the spring and early summer months.

The Etiology

Among the predisposing causes, the following may be mentioned: Season, from March to August, the most cases occurring in May and June. Sex: male in the ratio of three to one female, the difference being due to occupation. Occupation: those whose work takes them to the sage-covered plains and those who work in the mines and timber, sheepmen being especially liable to contract the disease. Age: no age enjoys immunity, though the most of the cases are found in individuals between the age of twenty and forty years. Previous attacks seem to confer permanent immunity, though in eight years' practice I have had two patients who gave an undoubted history of having had the disease, one of them six and the other eight years before.

The exciting cause does not seem to be definitely known. Wilson and Chowning, in their report, said that they found in the fresh and stained blood bodies which they held to be hematozoa, and which they named pyroplasma hominis; however, later investigators, as Stiles, King, Rickets and others, failed to substantiate these findings. During the season of 1915, I examined four fresh and fourteen stained specimens of blood taken from patients in every stage of the disease and

in two cases found an opaque rod-shaped body about one-third the length of the diameter of a red blood-cell. I doubt whether this was a causative factor of the disease. A short time ago, I read in the newspapers that someone in Utah claimed to have found a definite organism causing this disease, and I hope investigation will verify this; but, till this is done or further investigation reveals something more definite, we shall have to assume that the cause of Rocky-Mountain spotted-fever is not positively known.

Its transmission by the tick (dermacentor andersoni), male and female, is demonstrated beyond a doubt by several investigators, as Rickets, Maxey, McCalla, and others. In my own practice, I have found 97 percent of the patients to give a history of having been bitten by a tick between five and twelve days before the onset of the disease, but also I have had a few who positively denied having been bitten by a tick, and in whom a minute inspection failed to reveal a tick bite. This led me to believe that some other suctorial insect might convey the disease and whose bite left but little abrasion on the skin. But the fact that we find the tick bite in almost all the cases and that the season of the disease corresponds with the tick-season will serve to place the blame on the tick as the carrier of the germ. It is definitely settled that the tick does not act as an intermediate host, its role being purely mechanical.

The Pathology

The skin shows at first a macular eruption, which later becomes petechial and on dependent parts may become confluent. In severe or fatal cases, there may be marked evidence of extravisation in the rete mucosum, especially of the thighs and hips. There is in some cases a velvet-like appearance of the cheeks, and in most cases there is evidence of a recent tick bite, situated usually on the ankle or in front of the leg just above the ankle.

Investigators say that *post mortem* inspection reveals the cortical and spinal meninges to be normal or but slightly hypostatically congested. The same condition was found in the lungs; the heart was flabby and friable, with small petechiæ beneath the epicardium. The gastrointestinal tract appears normal. The liver is enlarged and shows fatty infiltration. The pancreas and spleen are enlarged. The kidneys are enlarged and red in every case and there may be small hemorrhages into the pelvis; the cortex swollen but not adherent, the pyramids red and sharply defined. The microscope shows general cloudy swelling.

The blood of the patient shows a diminution in the red cells as the disease advances. The hemoglobin also is diminished but not to the extent of the red corpuscles. The leukocytes are said to be normal or nearly so, but I found in fourteen cases an average of 12,500 the highest being above 25,000; the small lymphocytes being relatively increased. Late in the disease, I found a few megaloblasts, and in one case, where the patient was above fifty-five, there were a number of poikilocytes late in the disease.

The Symptoms

The incubation-period is from three to ten days or, in some cases, a little longer, during which time there is increasing malaise, with pains in the bones and muscles, especially of the back. One of the first things complained of by the patient is, a stiffness of the wrists and ankles. The onset is usually announced by a chill, which may be severe. There may be nausea. Severe headache and backache are usual, bowels are constipated, the tongue is furred. Often the skin has a yellowish hue and in some cases there is marked jaundice. Nosebleed is common during the second week.

The temperature rises rapidly after the initial chill, reaching 104 degrees or higher, and stays quite high until about the tenth day, when in favorable cases it slowly declines very much, as does a typhoid-temperature. In very severe or fatal cases, it may reach 106 or 107 degrees about the eighth or tenth day. The pulse usually is high, 110 to 140 in average cases. Full and strong at first, it becomes weak and thready as the disease progresses. The respiration is increased being from 36 to 40 per minute. Bronchitis is common, pneumonia a frequent complication. The digestive system shows but little disturbance as a rule, though late in the disease there may be some nausea and, in severe cases, persistent vomiting. Enlargement and tenderness both of liver and spleen appear early. The urine is scanty and highly colored, with a trace of albumin, and often containing granular and blood casts. The nervous symptons often are quite marked, but not at all alike in all cases, some patients showing marked irritability, pain and hyperesthesia and often photophobia, while others, especially severe cases in old people, show delirium of the low muttering type. Coma usually precedes death.

The rash appears about the third day, is first seen on the ankles and wrists, then

spreads toward the trunk, the abdomen being the last place for it to appear. The eruption is thickest on the back and thighs and fewest on the abdomen. When it first appears, it consists of bright-red macules, and disappears on pressure: the spots are discrete and about 1 to 6 min. in diameter. As the disease progresses the macules become darker and petechial and reach their fullest development about the eighth or tenth day, the spots becoming confluent over dependent parts. With the decline of the fever, the spots fade, leaving a dark stain in the skin, the stains persisting for some time. A warm bath will bring them out during several months, in some cases. Desquamation begins when the convalescence is well advanced and is quite marked on the hands and feet. Convalescence usually begins the third week and is quite slow, and in most patients above fifty years of age it may take months to fully recover.

Complications and Sequels

Gangrene of the skin over the toes, fingers, scrotum, and penis is sometimes seen. Lobar pneumonia is a frequent complication. Cystitis is common. Heart exhaustion must be watched for.

Among the sequels of the fever these may be mentioned: Nephritis, usually transient. Heart lesions, which tend to persist for months. Blindness in one or both eyes is a rare sequel due perhaps to the eruption occurring along the optic nerve or in the nerve-sheath. A suicidal mania sometimes appears late in convalescence. I have known two cases of suicide, and this leads me to believe that there may be more meningeal involvement than is usually supposed.

Diagnosis and Differential Diagnosis

The diagnosis is made from the mode of onset, the season, the history of a tick bite, the knowledge that the disease is endemic in the locality, and by the eruption, which is characteristic.

There are but few diseases that are likely to be confounded with this one. Early, it might be mistaken for typhoid fever, influenza, rheumatism, and smallpox, but the time of the year and absence of the Widal reaction would serve to differentiate it from typhoid fever. Influenza shows nearly the same prodromes, but the history of a tick bite would serve to differentiate here. In rheumatism, the history of previous attacks, together with the absence of a tick bite, would make the differentiation easy. Smallpox resembles this disease somewhat in the early stages, but the absence of an epidemic and the history of a tick bite would serve to show that it is spotted-fever. Later, typhus fever might be confused with it, but the locality and the endemic history of one and the epidemic character of the other would make the differentiation quite easy.

The prognosis of this disease depends upon location, age, season, and altitude. In the Bitter Root Valley of Montana, the mortality is very great, going as high as 80 percent some seasons, while in Idaho and some of the valleys of Utah the mortality is less than 4 percent. It is very much more fatal in people past middle life than in young adults, while in children it is very mild, as a rule. The earlier summer months show the greatest mortality, and it seems that the higher altitudes give a lower death rate than do the lower altitudes.

Treatment

There is no specific or established serum treatment as yet. So the treatment is largely symptomatic, indefinite as that term is. An outline of the course of treatment which has given very good results in my hands is about as follows: variations according to conditions, of course:

For the early soreness, I usually give the salicylates or aspirin. We usually employ a little calomel at the beginning of the disease and follow this with a mild laxative saline, and repeat the saline every other day for the first few days and as often after that as it seems required. For some time, we give a small dose of belladonna, to hasten the rash. We examine the urine every few days, and give the indicated remedy. For the fever, aside from the salicylates, we sometimes employ the vegetable antipyretics, and during the height of the fever we sponge the body with alcohol or a mixture of equal parts of alcohol, aqua hamamelis, and water. In the later part of the disease, we give 1-40 grain of strychnine every four hours, to sustain the heart. The delirium we treat with alcoholic sponging and the ice-cap to the head, and sometimes we give a few doses of the bromides; though we do not follow this as a routine and would especially caution against the free use of the bromides in this disease. The sponging as above is of great benefit late in the disease, as it helps to keep up the heart's action and the strength of the patients, and they always tell you how much better they feel after the sponging. Other symptoms should be treated as they arise.

During the convalescence, a good tonic is needed here, the same as after any other exhausting disease. The diet should be light, yet sustaining. Buttermilk serves well as a food, is well borne by the stomach, and is very grateful to the patient. Convalescence should be watched carefully and any complication or sequels promptly recognized and combated.

I will add that this disease is becoming more widely distributed over the north-west, and we hope for a means of limiting it as to locality and, finally, a means of stamping it out altogether. And the interest taken in this work by the government and private workers will accomplish this in time, I am sure. We are also hoping for a more rational or specific treatment soon.

A Study in Collections

By F. L. Edman, Argos, Indiana

FEW tasks in any line of business are more annoying or disagreeable than the converting of long-standing accounts into cash. It is one of the easiest things in the world to let a person get deeply in debt to you—much easier than insisting on prompt payments. But when the amount owed begins to assume serious proportions and the debtor still fails to come across—then what?

If it were possible always to play safe, in all cases giving yourself the benefit of the doubt, the number of your bad accounts would be substantially diminished. However, even then they could not be eliminated entirely; for it frequently happens that a man whose credit has always been above reproach for some reason falls into the slow-pay class, which is the first step toward making him a doubtful risk.

Now, what causes a man, once honest, to become careless and indifferent about his honest debts, even to the point of trying to sidestep them entirely? In practically every instance, the man who swerves from the paths of honesty does so because payment of his accounts means working a hardship on himself. It has been discovered that the majority of such offenders are married men. While single, with no one to support but himself, the average man experiences little difficulty in meeting his few obligations as they come due; but, unless he has accumulated a considerable sum or has an exceedingly large income, he is liable to find pretty tough sailing for at least the first year or so of his matrimonial career.

With a lot of unlooked-for expenses, the married man soon becomes all but submerged in the quagmire of debt. There are so many demands on his money that it seems almost impossible to make any appreciable progress toward paying his bills. His creditors become impatient and begin to push for settlement. In time, he becomes discouraged and resentful. He defers payment in all cases just as long as possible; and, of course, the longer any debt runs the harder it is to pay. At last he succeeds in wearing out one of his creditors, who gives the account up as lost and ceases to bother him about it. By and by, after a few more obligations are sidetracked in this manner, the debtor's conscience becomes so calloused that debt-dodging seems almost legitimate.

Few men of the medical professions have gone into the collection-problem deep enough to discover the most effective means of getting the money, although it must be recognized as a vitally important thing to be considered; for, no business can long exist without adequate working capital. Ordinarily, physicians send out statements once or twice, and to those who fail to respond they then make perfunctory appeals through letters or personally.

It is a wanton waste of time and labor to send out collection-letters that are gotten up in a haphazard, loose-jointed manner. Simply calling the matter to the debtor's attention is not sufficient when it has reached a point where a letter is necessary. Considerable thought must be given to construction. The whole thing must be worked out with great care. The viewpoint of the debtor must be considered—the possible reasons why he doesn't pay anticipated, and argument produced that will offset all opposition.

A surprisingly large number of almost any physician's bad accounts can be collected without even antagonizing the debtor if the proper method of approach is used. The average slowpayer is not entirely devoid of honor, and it has been proved that many who are absolutely bluff-proof and execution-proof will "come across" with the money when appealed to in the right manner.

That a man's credit standing is of inestimable value to him, is a well-established fact. The slowpayer either doesn't fully realize that in permitting accounts to run long overdue he is jeopardizing his credit, or else he doesn't thoroughly appreciate the real worth of having a good standing with the business and professional men of his community. Bringing the debtor to understand that withholding payment of his obligations really works a serious injury to himself, is a potent factor in making collections.

We quote the following from one of a chain of letters that have proved successful:

Believing that it is your intention to be always prompt with the payment of accounts, I call attention to the fact that there is on my books a charge of $. . . . against you, which has been running for some time.

I understand how these things will be occasionally overlooked, and, of course, appreciate that you have not purposely neglected this matter. However, inasmuch as long-standing accounts are not desirable either from your standpoint or mine, I ask that you make settlement promptly.

Here is a paragraph from another good collection letter:

Your past record does not indicate that you are the sort of man who would wilfully sidestep a just obligation, and I do not believe you are. However, your action in permitting this account to run so long is a decided detriment to your credit standing.

The letter containing this paragraph has been very effective in collecting long-standing accounts. It has brought settlement in some of the most hopeless cases. Debtors who successfully withstood the attacks of other business men, assisted by collection-agencies and attorneys, have responded to this appeal. There is no question but that it strikes the spot in the majority of cases. It leads the debtor to believe that the creditor still has confidence in his ability and willingness to pay, but at the same time warning him that this confidence is being shaken by his delay in settling.

The following is taken from a letter written to a debtor who ignored the first request for settlement:

Had I not considered you thoroughly honest I certainly should not have granted you the liberal extension of credit which you have enjoyed. Your failure to pay within a reasonable time, together with your ignoring of my first letter, is a surprise and disappointment to me. However, it has not entirely shaken my faith in your integrity. I still think you will pay this account and not force me to sue for settlement.

The following is from a final appeal before suit:

I assure you I have no desire in any way to injure your credit standing in this community. I much prefer to protect it and keep you on my list of "desirable patrons." A first-class credit is a most valuable asset to you—its real worth cannot be measured in dollars and cents. Therefore, I ask you, in all sincerity, to think twice before compelling me to take legal action in forcing payment of this account, thereby making public a matter that will seriously impair your standing with all business men of this town.

I am going to give you ten days more in which to pay this account and save your credit. Suit will be brought immediately if settlement is not made by the end of this period.

Of course, no physician can well afford to become extensively involved in lawsuits, nor should this be necessary. However, it is advisable occasionally to make examples of certain hardshelled debtors, for the effect it will have on others. Once you win a reputation for doing as you say you will, money should come in with little difficulty; for, delinquents will know what to expect if they do not pay.

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

[*Continued from page 600, July issue.*]

MOST assuredly I should abandon improved galenic medication with electric violence were something to come within my reach that would protect from physical danger and relieve distress more effectively than what I now possess and laud as antidotal to human ills. We are on the border land of a system of medication the mission of which will be to preserve health, rather than to cure disease—the most feasibly practical proposition ever offered to mankind, from the medical realm. It is a feature of my daily study and long has been an element of my practice, naturally no more than experimentally in the case of a few isolated families desirous to be well and to remain healthy. Of course, a general conversion of the populace to this notion were absurd to contemplate down here, more so even than elsewhere, ere there may have been some preparatory mental and moral

elevation among the masses. The idea is attractive to the educated and intellectually endowed, as a measure of practical hygienic economy, regarding which latter my own robust personality is a living illustration—a miniature walking encyclopedia, as it were—that appeals in mute eloquence to all beholders to seek the fountain of health, the elixir of all the life one needs in this world of pathetic wo. And what a recompense is unbroken, ever abiding health for some other hardships and inconveniences! Were the trials of physical pain and its associated despondency the predominating genius of my life, certainly I should never bend me over these pages. My gratitude for the health that is mine is boundless, and this well-being renders me cheerful where suffering would despair.

As all that is claimed for calcium sulphide is familiar to the American profession, I do not think it necessary to go into details about minor uses to which I have put it. Let it suffice to say that two claims made for it are not borne out by experience; namely: that it will insure immunity from attacks by the voracious tropical mosquitoes, and that it will serve as a preventive of yellow-fever. It slunks down and refuses to serve in those important places; nevertheless, it does most of the other minor chores credited to its efficacy.

Antifebrin as an Antifebrile and Febrifuge

Antifebrin (Merck's pure German-made) is my febrifuge, to break fever, in all cases where I do not employ aconitine—wherever we formerly used quinine—for I have found it a safe and promptly acting substance. It was Doctor Brodnax who induced me to adopt it in my fever-practice, the fearful stories I had read about it having, up to then, deterred me from even proving it. Doctor Brodnax wrote me that he had had three cases of extreme test, as follows: One of his patients took 40, another 90, and yet another 180 grains of antifebrin (not authorized by him); the second and third, he supposed, with suicidal intentions, while the other thought that, if one powder of 8 grains would help him, five of them at once surely ought to cure him completely. The one who took the 180 grains experienced no more untoward symptoms than he would have had from 60 grains of quinine. And the man further assured me that persons who were attacked by chill and fever at 11 a. m. and immediately took the regulation dose of antifebrin at once, frequently would go back in the afternoon and finish the day's work.

This information, from that man, pacified my misgivings, and I started using the remedy. I got exactly the same results reported by Doctor Brodnax; only, I have never had to record an excessive dose. Nor has there been the semblance of an accident in the many years of its extensive employment by me, even though I have dispensed as many as, or more than, fifty doses in a single day, sometimes, during virulent epidemics of malarial fever; and rarely has a day passed when none was dispensed. There have not been, on an average, 3 cases in 100 in which the fever did not subside quickly, the temperature usually reaching normal within an hour or very little more. Occasionally I have seen a subnormal temperature (36.6° C.) to result; but, this does not prove an unfavorable incident. However, I never recur to this large dosage in the absence of fever—employing, instead, broken doses of quinine (most frequently the quinine arsenate), as tonic and preventive of relapse. A purge, of course, is always in order.

Antipyrin, I find, produces unfavorable effects that antifebrin never causes. Also, there are various other antifebrile coal-tar derivatives closely analogous to antipyrin in deleterious action, that it were better not to employ. Sometimes I use the antipyrin and quinine sulphate, in equal parts, in the form of an enema—the quinine being dissolved with a little lemon-juice or a few drops of sulphuric acid in very little water. I do this in cases of dangerously high fevers when administration by mouth is impracticable or when action thus might be too slow. I never fail to get the desired reduction of fever-temperature from these enemas.

For children, I keep on hand the antifebrin in the form of a compound mixture, this to be used by drops, according to age; and I get beautiful service. I have never used it hypodermically, although with the French profession that is the favorite method for the employment of antipyrin in the treatment of children.

Brief Mention, and Positive Medication

I have been getting such excellent service from creosote and guaiacol, as well as from some of their derivatives, in all classes of pulmonary involvement, that this fact should be familiar everywhere.

I do not pretend to know how to treat yellow-fever; and I may know as much about it as some experts, as a few men are esteemed. I treat it much the same as I combat pernicious fever, struggling ever against the

vomit, when I do have such patients; some of whom die and some getting well, probably about as they would come out without any medication. Someone will yet discover the appropriate antifebrin for yellow-jack, and then all the world will wonder why it was not known all the time. I cannot even try to guess what this preparation may be—I have no genius for discovering that important antidote. Still, it is much to suppress these epidemics—indeed, really better than a cure, were this possible in the backwoods, among the jungles and bogs of tropical wilds.

I know of no cure for well-developed smallpox, and I hope ever to combat that dreadful pest by preventing its development.

While some of the important substances I have named were not known to Galen, they are, withal, an acquisition in improved medication. Whenever there is to be had the active principle of any galenic substance among those not named by me, if I require its service, I am likely to employ it about the same as anyone else would use the standard preparation, in the same place, except that my treatment would be positive, and administered in broken doses equivalent to what the misguided brother would imagine he was administering in full dosage. I should be certain of my dosage and its potency, while it would be half random guesswork with the crude standard preparation.

Burgess' Wonderful Magnesium-Sulphate Solution

Epsom salt, as intimated earlier in this account, has been enshrined and crowned by Doctor William H. Burgess, an old confederate surgeon who once was within the radius of my eye, ere he was aged and gray and I was not yet estranged utterly from earthly hope, the lone survivor of all those who wore the luckless gray personally known to me, be it in intimate association or in mere passing association—a reminiscence amply sad to make this flickering lamplight illuminating this sheet burn bluer than its wont ere the spectres of the still and solemn hour obscure the pale rays with the dim shadows of their sable wings.

These weird repinings—or what you will—heaven knows how earnestly I have struggled to relegate them and their inspiring causes to the fathomless depths of oblivion. Yes, I have found surcease from their pursuing menace for uncertain seasons, till they come again softly stealing back upon me, over the lapse of years, over the breadth of the world, over the sods of the grave. This life, reft of hope and alienated from any kind, not enthralled in the woes of sick life, must be more intense and thrilling than that of those who have hopes not perished and loves not dead. But—but—whither is Doctor Burgess, the romance of a dead time and dead ideals, leading me? Let me not drift away from the thread of the story connecting my old, now dead, friend Burgess and his splendid magnesium salt therapy.

When I first read the propaganda of that new faith of the old surgeon, I pondered a long time, trying to imagine from what fairy tale he caught the gossamer drapery of his fantastic disquisition. Yet, this saline had the redeeming merit of at least being innocuous in external applications, exactly where it was to work its wondrous miracles. I was sadly in need of an auxiliary able to serve me in the way the flowery literature of Burgess so liberally proffered me helpful aid. A peseta in Mexican coin would quickly solve the problem. Doctor Burgess surely either was a cheap John or else a noble philanthropist. He in no wise hinted at remuneration, nor suggested that one prove, and then pay if results were satisfactory. He was modestly retiring for a discoverer of a precious panacea for human ills.

I made up a jugful of the solution. The woods were full of suitable afflictions for making tests. I sent bottles of the solution, with directions for use, to a number of suitable cases. In a few days, several of the patients put in appearance to ask for more of that medicine that had done them more good than a muleload of any ever tried before. And thus the reports continued to come. I used the solution in all painful conditions, inflammations, bruises, erysipelas, rheumatism, and eczema, with cheering success. But, that the reader may not imagine that I wish to show partiality to Doctor Burgess because we were in the shipwreck of the Lost Cause, I am going to quote from Doctor George Roberts, of Lincoln, Virginia, a rather below fair sample of what I have seen reported by scores of other doctors. This is what he writes:

"Doctor Robinson is evidently a follower of Doctor Burgess. Let me say that within the past year I have used and prescribed very near a barrelful of epsom salt, and the only trouble is that the patients get well so quickly that the doctor does not make enough out of his practice to provide for his family as he should. The epsom tub-bath and sponge-bath are the greatest therapeutic measures known. Adopting Doctor Burgess' methods,

there is nothing impossible, curing obstinate diseases in three to four weeks, when the patients were given up to die. Paralytics turned out of the big hospitals as incurable are greatly improved.

"It seems hard to believe, but these are facts which I have demonstrated, and Doctor Burgess deserves a monument higher than Washington's. I am not one to scatter flowers on a dead man's grave, but give him his tribute while alive.

"I never tell a patient what I am using, but color my epsom salt for the bath with a little carmine, making it a delicate pink. They never saw a drug like it in any store and are willing to follow directions. They would laugh at the idea of epsom salt, as some doctors will at what I have written."

I have here, somewhere in the office, in the London *Lancet*, a report of 700 cases of erysipelas, in every stage, treated with epsom salt, with thrice the cures ever attained with any other medication, early relief being experienced in every case; while the few who died had their sufferings appreciably modified. The death rate under this treatment was far below that from any other ever recorded from such a large number of promiscuous patients.

The solution is a valuable adjuvant in dropsical treatment, the swollen parts being sponged and the feet bathed with it as hot as can be tolerated.

I have had great success in the treatment of dropsy with anascarcin, an American proprietary preparation. This never fails me.

Those Predatory Bandits

If there is a possibility of putting information in an autobiography serviceable to a reader, it must be in divulging something out of current medical walks and likely to be turned to useful account. Some of the items I am jotting down would never have been in my experience in another more congenial practice. Stern and urgent necessity has actuated me to prove out many things to a finish that I never would have taken under consideration in pleasant fields of cheerful life. I do not thus refer to financial want; for, I am a stranger to gaunt and gnawing poverty, save for brief seasons after having been cleaned up by bandits—as has happened twice in my tropical pilgrimage—although I never was hungry in consequence of such ungenerous fleecings.

And now, although it seems that oil has been flung on the troubled waters between the United States and Mexico, the peril here is greater than at any time since the inception of hostilities. While the outlaws are not in the immediate neighborhood, they can arrive any night whenever the federals are temporarily absent. The native people are in great terror, as other towns have been recently burned, and even bedding and clothing carried away. Probably I should not fare very prosperously in their hands and might be left without a house, if not without a head on my shoulders. Yet, all this makes a bridge to be passed when we reach it, all being within problematic possibility.

How Cactus Came Out Victorious

In recent years, I have said so much about cactoid (formerly known as cactin—the concentration of cactus grandiflorus mexicana) in medical journals that it seems superfluous to dwell elaborately on the substance here. It may be said to be glonoin of slower and less energetic action, being useful in feebly functioning heart, and to relieve arteriole congestion, which latter is often indicated by superficial cold and clammy skin through inaction of the pores, with excessive trunkal and cerebral heat. Cactoid may be employed for an almost indefinite time. I have used it for six months in anemic patients, with unvarying benefit. But, after the American Medical Association, through the medium of the Council of Pharmacy, put the substance under the ban, as worthless trash, I desisted from making reference to it, although continuing its use with increasing constancy. Finally Professor Lloyd, of Lloyd Brothers, Cincinnati, came along with a startling announcement that he had sent out circular-letters to thousands of doctors, requesting them to report what medicines, they employed most frequently, and in this way found that cactus grandiflorus headed the list as the medicine most frequently used by American doctors. This conclusively proved that the condemnation of the Council had not frightened the profession to abandon a meritorious remedy, which nothing else could replace in their materia medica.

For some two years I had supposed that cactus was relegated to the demnition bowwows by the American medical profession and that I was the only one of the browbeaten fraternity so stupidly stubborn as to continue its use. And now I am again lauding the intrinsic merits of cactoid in the medical journals whenever it happens to get into the kinks of my meditation when writing to them.

[*To be continued.*]

Abortive Poliomyelitis

A Type of Acute Epidemic Poliomyelitis

By Philip A. E. Sheppard, M. D., Boston, Massachusetts

THE abortive form of poliomyelitis cannot be regarded as an accidental occurrence in the epidemic expression of infantile paralysis, for it has been amply shown by many observers, and it is my own experience, that suspicious coexisting illnesses do occur in association with frank cases of poliomyelitis, and that, in a good many instances where a tentative diagnosis of abortive poliomyelitis was made, motor disturbances of varying degrees have later appeared.

In this paper the point is not so much to establish the actual occurrences of abortive cases but as far as possible to indicate the varying expressions of this type of the disease, the best means for detecting them and the therapeutic measures that should be tried in all of them.

At the outset it is safe to say that abortive poliomyelitis is a form of acute epidemic poliomyelitis in which paralysis does not occur.

In my experience as special medical investigator of the Massachusetts State Board of Health I have estimated that for every reported paralytic case there were at least two or three cases of the abortive type, and I found, further, that the manifestations of this nonparalytic form of acute epidemic poliomyelitis varied anywhere from a slight illness, with no motor disturbances, to a quite alarming illness in which motor disturbances seemed to threaten but did not develop.

The question naturally arises in one's mind whether or not this socalled abortive form is the more general type, and whether the more clearly defined paralytic forms constitute the atypical types.

We are safe to assume that it is possible, even probable, that acute epidemic poliomyelitis is an acute infectious process which may or may not be characterized by definite motor disturbances sometimes resulting in paralysis.

If it can be granted that this hypothesis affords a solution of a difficult problem, then we are facing a situation of greater magnitude than has heretofore been supposed.

By laboratory means it has been shown that the serum of abortive cases contained immune principles, so that one feels justified in saying that acute infections not otherwise classified among the known infectious processes, and occurring during the seasonal expression and in the epidemic zone of poliomyelitis, may safely be regarded as acute epidemic poliomyelitis and treated as such until it can be shown to be otherwise.

The Recognition of Abortive Forms

Briefly, in this form of the disease there are found.

1. Cases that run the course and assume the character of a general infection.
2. Cases in which the leading symptoms are those of a meningeal irritation.
3. Cases characterized by much pain, "influenza-like" attacks.
4. Cases with well marked gastrointestinal disturbances.
5. Cases with upper respiratory troubles such as throat and bronchial affections.
6. Cases that simulate gastroenteritis or some other intestinal disturbance.

The problem of diagnosis is not such a difficult one for the clinician who will bear in mind these few types when called to a case in which he does not find the earmarks of any known infectious process sufficiently marked, especially when the case is encountered in a locality where acute epidemic poliomyelitis prevails, or occurs in a family where an undoubted paralytic case of the disease already exists. In any event, a tentative diagnosis should be made and the case closely watched.

Prodromal Symptoms

A further aid to diagnosis is vouchsafed to the observant practitioner if in his cases any of the following prodromal symptoms present, e. g.: (1) Irritability; (2) restlessness; (3) pain along the spine or in the extremities; and (4) apathy.

Now the diagnosis may with reasonable certainty be clinched, and the only safe precautionary measures are (1) to place the case under strict quarantine and very careful observation and (2) to confirm the diagnosis wherever possible by laboratory tests.

It would be of great benefit, in the solution of all our difficulties, if this form of poliomyelitis were taken more seriously. I firmly believe that it furnishes us with the missing

link, so to speak, in the chain of evidence of the transmissibility of this disease.

Important Symptoms During the Acute Stage

The following list of symptoms, varying greatly in degree and kind, are generally present in the majority of these cases. For brevity's sake I have placed them in a table.

1. Fever, 100°–106° F. (duration 2 to 7 days)
2. Vomiting
3. Restlessness
4. Apathy
5. Rigidity of neck
6. Headache (frontal)
7. Delirium
8. Stupor
9. Convulsions
10. Photophobia
11. Dysphagia
12. Sluggish pupils
13. General pain (early in 58 percent)
14. Absence of deep reflexes
15. Cold extremities (vasomotor changes)

I will add another table, in this connection, elaborated from a series of 198 cases that came under my observation, and which I worked over very carefully. This table will show the relative frequency of most of the symptoms given in the preceding table, with some additions.

Symptom	*No. of Cases*
Fever	198
Pain and tenderness	184
Brain symptoms	117
Headache	106
Retraction	79
Sore throat	59
Apathy	24
Delirium	19
Rigidity of neck	18
Cough	13
Irritability	13
Tired condition	9
Rigidity of spine	9
Lassitude	8
Strabismus	7
Change of T	6
Diaphragmatic breathing	6
Dysphagia	6
Sweating	5
Irregular pulse and respiration	5
Twitchings	5
Diminished or absent reflexes	5
Convulsions	4
Nystagmus	4
Anorexia	3
Weakness	3
Hyperesthesia	3
Stupor	3
Exaggerated reflexes	3
Regurgitation of food	3
Anxious expression	2
Tremor	1
Coma	1
Tympanites	1
Insomnia	1
Hiccough	1

With these facts and suggestions in mind (and realizing that the diagnosis must be made on general principles, mostly by a process of exclusion, plus whatever positive laboratory signs are available to us), I believe the diagnosis of abortive cases will be made earlier in the course of the infection, more frequently, and with greater certainty.

Since in a majority of cases a history is obtained of intimate contact either with an acute case or with a third (healthy) person who had associated with such a case, the weight of evidence points to the infection being a transmitted disease, and it should be handled as such. Instances bearing on this phase of the disease are being elaborated in another paper to be published later.

Incubation Period

The prodromal stage may occupy a period of a few days to a week.

Treatment

During the prodromal stage: Keeping in mind the etiology, enforce strict quarantine measures, screen the room, and remove all unnecessary furnishings. Now put your patient in bed and detail a special attendant.

In all forms of the atypical disease, start by opening the bowels, first cleansing the lower bowel with a small rectal enema consisting of 4 ounces of each glycerin and hot water. This secures an evacuation in about two to four minutes; I have never known it to fail. Give a tablespoonful of a mineral oil emulsion night and morning. Run in a laxative saline fifteen minutes before breakfast on the first day of the suspicious illness. Keep the patient in a comfortable bed to insure relaxation of muscles.

If gastrointestinal symptoms predominate, feed the patient on a diet of milk which has previously been treated with bacillus-bulgaricus cultures. Care should be used that a reliable and vital culture be employed in this method of treating the milk. My method is to bring the milk to the boiling point, in a double-boiler, holding it there for thirty minutes; this insures the destruction of pathogenic organisms. Separate the boiler, cool the milk quickly to 90° F. and the water to 100° F. Add the culture, set up double boiler again, wrap in a blanket, keep in a warm place until the milk has junketed, then place in ice-chest, where it should remain until consumed.

If constipation is present, use the whole milk thus treated, and if diarrhea complicates the case remove the cream and use only a fat-free bulgarian-bacillus-treated milk.

As the patient recovers, cautiously add other suitable articles of diet depending upon the age of the patient, but be sure that everything is boiled.

Keep the mouth and teeth clean—particularly if throat and mouth symptoms predominate. Spray the throat with hydrogen peroxide in 1-10 dilution. Clean out the nares with a like solution; use these measures several times during the day.

Another thing worth while is to swab out the throat with a bouillon culture of the bacillus bulgaricus full strength—then use a gargle twice daily containing the same organism in the dilution of a teaspoonful to the pint of water at 85° Fahrenheit. Hexamethylenamine, 5 grains to a tumbler of water, may be given once or twice a day.

For the rest, use good judgment and treat symptomatically until research has triumphed and we are given a specific serum. May this be soon.

In conclusion I feel justified in saying that, with the wealth of evidence on hand, *it is possible* to make a positive diagnosis in abortive cases of acute epidemic poliomyelitis and that, by treating such cases along the lines I have endeavored to set forth, we may reasonably hope for measurably successful results.

Syphilitic Nephritis

With Some Suggestions for Its Treatment

By M. W. Thewlis, M. D., Wakefield, Rhode Island

A YOUNG man consulted me for a chancre. This went the usual course and was followed by the secondary symptoms. Four months after contracting the primary lesion, he began to complain of severe headaches and puffiness of the eyelids appeared. One night, while talking with friends, he was taken suddenly with coma, which rapidly became deep. He remained in this condition for four days. The urine showed a normal urea test, a slight trace of albumin, and some hyaline casts. A diagnosis of syphilitic nephritis was made.

The patient was put on a course of arsenic trioxide, 1-100 grain every three hours. He also was given a strict milk diet, and was kept in bed for five weeks on this regimen. At the end of this time, cereals were added to the diet and eventually vegetables. Three weeks from the onset of the attack, albumin appeared in abundance in the urine and granular casts were very numerous. At the end of five months, he had recovered sufficiently to enable him to resume his work.

Six months from the beginning of the first attack, the man was again taken with kidney symptoms and was obliged to give up his work. Ordered to resume the milk and cereal diet, he again recovered in four weeks, and has remained in good condition ever since. He has taken protoiodide of mercury constantly since the fifth week of the first attack. It is now three years from the first attack, yet, withdrawal of the mercury or a change to any other remedy will immediately bring on again symptoms of renal irritation.

This case represents a toxiinfectious nephritis brought on by syphilis, following the secondary manifestations, and constitutes the early form of the disease. It is the same type of nephritis that may supervene as a complication of scarlatina, smallpox, pneumonia, influenza or erysipelas. The syphilitic toxin is capable of causing much destruction to the renal tissue and may assume a very malignant form, as in the case under consideration. The nephritis of syphilis may come early in the course or may appear late as a tertiary manifestation. Ordinarily when it comes in the course of syphilis it would be attributed to the use of mercury. However, a study of workers in this metal would show that they rarely have any kidney irritation, except in acute mercurial poisoning, in which case death may come from anuria, the result of nephritis. Workers in lead may show a nephritis, but those who work with mercury do not have any impairment of the renal tissue as a result of the metal. Moreover, in this case of mine, mercury has been the remedy employed constantly, while, whenever any other form of treatment was substituted, albumin and casts reappeared in the urine soon after, together with other symptoms of nephritis.

Usually there is no warning by minor symptoms of Bright's disease. In fact, attacks of headache, puffiness of the eyelids,

and albuminuria will be the only manifestations of an incipient syphilitic nephritis. In the present instance the kidneys were at fault, and, yet, there appeared no microscopical evidence of marked abnormalities in the urinary sediment until three weeks had elapsed from the onset of the attack.

This seems to apply to many forms of acute nephritis. A sudden onset, without warning, except by headaches, is the usual picture of this disease. It is often overlooked, because at first the symptoms are all out of proportion to the urinary findings and may lead one to think that the kidneys are not the cause of the disturbance. However, it should not be forgotten that it may be two or three weeks before much microscopical evidence can be elicited.

There is no disease capable of causing any more malignant form of nephritis than syphilis, and it is usually a more serious complication than the nephritis of diphtheria, pneumonia or erysipelas. There may be a slight nephritis that may damage the kidneys to such an extent that the influence of some fresh infection may cause a most serious form of kidney inflammation. The condition must be watched for a long time, inasmuch as it frequently leads to a chronic form.

Treatment of the Early Form of the Malady

A milk diet is indispensable, although in the mild cases cereals may be added. My patient took three quarts of milk daily for five weeks, and he improved constantly. Arsenic trioxide, 1-100 grain every three hours, is used in the acute stage, while later mercury, in the form of the protoiodide, is given in daily doses of 1-2 to 1 grain. The arsenic preparations seem to act better in the acute and malignant forms than does mercury. Stokes* finds salvarsan or arsenobenzol to be the quickest method of treating syphilitic nephritis. It does not irritate the kidneys, unless given in too large dosage. He gives the salvarsan in doses of 0.15 to 0.2 Gram, later cautiously increasing to 0.4 Gram. However, he finds it advisable to follow with the use of mercury, in order to obtain lasting results.

As improvement takes place, one might be tempted to add more to the diet; still, usually when the disease improves, it is well to continue this strict diet for a sufficient length of time to allow a complete subsidence of kidney inflammation. If the condition recurs, it always is more difficult to overcome it.

*Stokes, J. H.: *Journal of the American Medical Association*, 1916, LXVI, 1191.

While the early nephritis usually comes on after the disappearance of the secondary symptoms, the tertiary form develops several years after the primary lesion, and is, in fact, a gummatous condition of the kidneys resembling amyloid degeneration. The following case illustrates this form of syphilitic nephritis.

A woman, now forty-six years old, had contracted syphilis twenty years ago. She now has symptoms of brightism, such as headaches, dizziness, nervousness, dyspnea, and general subcutaneous edema. The reflexes are normal, this excluding locomotor ataxia. This chronic nephritis in no way differs from common Bright's disease, the urine containing much albumin and numerous granular casts. This woman's condition resisted ordinary treatment, whereupon I prescribed daily inunctions of mercury and, internally, 10 grains of potassium iodide taken three times a day. This treatment caused a marked improvement and cleared the urine of the abnormal findings. She is continuing the use of mercury and has been free from albuminuria for one year.

Diagnosis and Treatment of the Tertiary Form

It is very difficult to diagnose tertiary syphilis of the kidneys, because the condition does not differ essentially from the ordinary glomerulonephritis. If the patient has had syphilis or shows a positive Wassermann reaction, in addition to symptoms of brightism, we may assume that the nephritis is specific. The simultaneous appearance of gummata of the skin, tertiary ulcerations or osteoperiostitis would point to an accompanying nephritis.

Mercury is to be preferred to potassium iodide. Salvarsan, administered by intravenous injection, is to be recommended, the same as in the acute type. Obviously, it is necessary to watch the action of all remedies prescribed, because the renal tissue is weakened. Consequently, to bring about a cure, the treatment must, from time to time, be stopped and then again resumed.

Relapses are very frequent; hence, a careful study of the urinary sediment must be persisted in sedulously, in order to detect any deleterious action of the remedies, as evidenced by renal irritation. The diet should be the same as that prescribed in ordinary nephritis. It is very difficult to induce a patient to continue treatment after he feels somewhat improved, however, the danger of a chronic glomerulonephritis must be explained to him.

Lobeline Sulphate

A Report of Some Animal Experiments

By G. R. Browne, D. V. M., Chicago, Illinois

THIS drug is the salt of the alkaloid of lobelia inflata, the fluid extract of which is valued so highly by the Eclectics in many pathological conditions, especially those affecting the respiratory tract.

The history of lobelia inflata is closely connected with the name of Dr. Samuel Thomson, the founder of the Thomsonian system of medicine, and it was brought before the public prominently during the numerous trials of the Thomsonians for murder and manslaughter.

The splendid results obtained by the use of lobeline sulphate in the conditions in which it is indicated, and the many conflicts of opinions regarding the value of the fluid extract of lobelia, impelled the writer, in conjunction with Dr. C. A. Zell, of The Abbott Laboratories, to conduct a series of animal and clinical experiments with lobeline sulphate to establish in our minds its toxic dose and its apparent action. In our previous experience, lobeline sulphate had not exhibited any of the toxic qualities of the fluid extract found objectionable by many authors.

Dr. Finley Ellingwood, in his recent work on "Materia Medica and Therapeutics," takes the stand that lobelia, used hypodermically, is not a nauseant expectorant and, while a sedative and antispasmodic, still exerts a stimulant action upon the patient and is not narcotic in the same sense that opium is.

Other authors, such as Cushny and Butler, are chary in recommending its use in any condition other than spasmodic asthma, claiming that the extreme nausea and depression resulting from its use, even in medicinal doses, render it undesirable and dangerous.

Sidney Ringer says that this drug is erroneously thought to be dangerous.

Hare, in his "Practical Therapeutics," says that lobelia is "equally praised and condemned."

Some careful experiments with lobeline were conducted by Edmunds to determine its physiological action. Some of his findings were most interesting, particularly as he clearly demonstrated that lobeline acts most powerfully upon the renal, vagus, and superior cervical ganglia, and that its action upon the inferior and mesenteric ganglia was deferred and not complete.

Edmunds also states that it was impossible for him to stop the heart's action with muscarine, after an injection of lobeline had been given, and that lobeline would start the heart action after it had been stopped by muscarine.

These findings should assist us materially in the application of lobeline sulphate to conditions in practice.

Indications for Lobeline Sulphate

Lobeline sulphate appears to be especially indicated in the following conditions, and in some of them it has proven to be almost indispensable; for examples in the tetanus and azoturia of equines. (Azoturia of horses is similar to paroxysmal hemoglobinuria of the human.) Lobeline sulphate should certainly prove of great value as a nonnarcotic sedative in cases of renal calculi, renal colic or hyperemia.

This drug should also be given a trial in cases of spasmodic asthma, spasmodic laryngitis, whooping-cough, hysteria, and hysterical convulsions, and in eclampsia.

As I have stated, my observations were of a purely clinical character, and made on animals like the horse and dog.

In cases of azoturia in the horse, where the animal was almost uncontrollable, I have seen 1-10 grain of lobeline sulphate render the animal perfectly tractable and apparently free from pain, bystanders commenting audibly on the "powerful dope" that the veterinarian had administered.

My first experiments with this drug, aside from using it in tetanus and azoturia, were conducted with the object of determining its action, if any, in cases of pulmonary emphysema or "heaves" of horses, and successive injections of lobeline sulphate were given with no apparent effect. The dosage ranged from 1-20 to 1-4 grain, 1-10 grain being the average amount necessary to produce full effect of the drug in azoturia of equines.

Its Action on Dogs

To determine the toxic dose of lobeline sulphate, seventeen dogs, ranging in weight from 10 to 25 pounds, were injected with lobeline sulphate.

Group 1.—Four dogs were injected with 1-50 grain.

Group 2.—Four dogs were injected with 1-25 grain.

Group 3.—Four dogs were injected with 1-10 grain.

Group 4.—Four dogs were injected with 1-8 grain.

Group 5.—Four dogs were injected with 1-4 grain. One dog, weighing about ten pounds, received 1-2 grain of lobeline sulphate.

In from one-half to one minute after the injection, the respirations became greatly increased in rapidity, but observations at this point were interrupted by thorough vomiting, followed by defecation, this occurring in from one to two minutes after the injection. The attendant reported successive full evacuations for three to four hours following injections.

The heart, after a preliminary quickening, was slightly slowed, the pulse being full, soft, and regular. In a total of thirty-six animals injected, without exception every animal promptly vomited and then in all but four cases defecated.

No animal showed any depressant or narcotic effect from this drug, except that habitual "barkers" did not exercise this function for a few hours.

As the ten-pound dog did not appear to be adversely affected by the injection of 1-2 grain of lobeline, we gave up expectation of recording any toxic effects.

Salivation was evidenced in the majority of the animals, and assuming that secretions were stimulated throughout the body, I believe that the evacuations were attributable to this action of the drug. The relaxation of the intestinal walls, together with abdominal pressure during vomiting, undoubtedly was responsible for the early evacuations.

Effect Upon Strychnine Poisoning

Desiring to test the ability of lobeline sulphate to control the convulsions of strychnine poisoning, I carried out a number of observations, in association with Doctor Zell.

Dog No. 1, weight about 20 pounds, received 1 grain of strychnine by the mouth; in twenty minutes the first symptoms of poisoning were observed, and then 1-4 grain of lobeline sulphate was given hypodermically, but the convulsions had set in to such a degree that they were uncontrollable, and the animal died in the usual manner.

The next dog, about the same size, was given 1 grain by the mouth, and, about eighteen minutes after administration, 1-4 grain of lobeline sulphate was exhibited. Symptoms of strychnine poisoning were evidenced almost immediately. Death followed within two minutes.

Dog No. 3 received 1-2 grain of strychnine. We waited ten minutes and then gave 1-4 grain lobeline sulphate. Prompt vomiting occurred and the dog did not exhibit evidences of poisoning.

Dog No. 4 received lobeline first, and, after vomiting had occurred, 1-2 grain of strychnine was given. Absolutely no signs of strychnine poisoning developed for two hours and ten minutes; then he had the first convulsion, and died in about ten minutes. Heart action continued irregularly after respiration had ceased.

Dog No. 5 was given lobeline sulphate first and strychnine after vomiting; he showed no signs of poisoning.

Where strychnine is absorbed slowly, that is, when death does not follow within one to two minutes after the first convulsion, as was the case in Nos. 1 and 2, the lobeline exerts a remarkably antagonistic effect, producing emesis and thus emptying the stomach of unabsorbed poison. It relaxes the muscles wonderfully, but just what its exact counteracting effect is we are unprepared to state, but intend to continue our experiments further. We do know that 1-20 grain of strychnine produced death in two other dogs of the same size.

Summary

Lobeline sulphate is a direct or systemic emetic, given hypodermically to dogs, in from 1-30- to 1-4-grain dosage, no narcotic action being exhibited, rather a stimulative action, especially to the secretory glands. Absolutely no depression follows its administration in dogs.

It should be used in conditions where a general relaxant is desired, and particularly when pain is evidenced through the renal, superior cervical, and vagus reflexes.

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[Some experiments made on the human subject show that in 1-100-grain dosage lobeline sulphate will cause slight nausea, and vomiting and bowel-evacuation when 1-50 grain is given. There was no depression following its use, and the heart's action was excellent throughout. Respiratory action was increased. Nausea appeared within two to five minutes. Doctor Browne's suggestion that the remedy should prove of value in renal and hepatic colics, asthma, and other spasmodic conditions, is excellent. We shall develop this subject in future issues of this journal.—Ed.]

What Others are Doing

THE ADVENT OF PARALYSIS IN ACUTE ANTERIOR POLIOMYELITIS

The monograph entitled "A Clinical Study of Acute Poliomyelitis" that has been prepared by Francis W. Peabody, George Draper, and A. R. Dochez, and issued by The Rockefeller Institute for Medical Research, under date of June 24, 1912, in many respects is a classic. It contains the most careful description of the natural history of this disease, its symptoms, complications, and character that has ever been published, at least in our opinion, and because of the interest in this subject at the present time we are presenting several brief abstracts from this monograph, which may be read in connection with the editorial appearing on page 640 of this issue and which gives a general review of the disease. In the first of these extracts, the authors describe the advent of the paralysis in the following language:

"A curious thing is, the unheralded advent of the paralysis. One may observe in the morning that a child moves its arms easily; a few hours later, on going to the bedside for some other purpose, the patient is found lying quietly as before, but when it rolls over, one arm falls back limp. The child seems unaware of the loss of power. In a few cases, patients have complained of pain in an extremity shortly before paralysis supervened. While the presence of paralysis is easily detected in older children, it is sometimes most difficult to find in infants. In any case, the most satisfactory method of beginning a search for muscular weakness is, to sit down by the bed and watch the child for many minutes. Of course, in some instances, the patient lies a limp, inert form, the subtle expression of vitality gone. In such cases, a glance is enough to determine the presence of paralysis, and more careful examination is needed only to learn its extent.

"If the pain or tenderness is not too intense, gentle handling of the extremities soon discloses the muscle groups that still have some power left in them. Older children will usually move the arms or legs upon suggestions calculated to demonstrate faulty motion. Often, however, when there is great pain, it is hard to tell whether the children will not or can not move. In such cases, the physician must decide whether the demonstration of the presence of a paralysis is of sufficient importance to justify his causing the patient the pain involved in such demonstration. In such cases, the only way in which the presence of a paralysis may be accurately determined is, by pricking the skin and determining whether or not the child draws the part away from the source of discomfort. For instance, if it be suspected that the deltoid is weak, the skin should be pricked on the posterior and inner aspect of the arm, when, if the deltoid is not involved, the arm will be drawn outward and upward.

"The extremity should be so placed at first that the suspected muscle will have to work against gravity; but it is surprising how quickly and skilfully the smallest infants turn and twist to make use of this natural force. Occasionally the presence of tone in a muscle can be shown by putting it suddenly on the stretch. For example, if the flexed forearm be sharply drawn down by the examiner toward extension, definite resistance will be noticed when the biceps is normal.

"There is one group of cases in which it is almost impossible to locate definitely the paralysis. These patients present all the other features of the disease, but no paralyzed muscles can be found. If such children be stood on their feet, however, they suddenly buckle at the hips and fall in a heap on the floor. Probably weakness of the gluteal muscles in some cases is accountable for this form; in others, weakness of the quadriceps.

"Mueller states that paralysis of the intrinsic back-muscles is of frequent occurrence. This is a difficult palsy to demonstrate in the acute stage of the disease; for, in the great majority of instances, the children will not or can not sit up at this time. In some cases, pain makes the patient antagonize the effort to sit up; in others, there is, apparently, such general weakness of trunk and neck that the head drops and the spine bends like a reed. Yet, in a week or two these children may b

sitting up straight in bed and playing actively."

ABORTIVE TYPES OF POLIOMYELITIS

The term "abortive" was applied by Wickman to cases of poliomyelitis in which paralysis does not develop. ("Beitraege zur Kentniss der Heine-Medinschen Krankheit." Berlin, 1907.—"Die Akute Poliomyelitis, bzw., Heine-Medinsche Krankheit." Berlin, 1911.) According to his experience, these abortive types represented from 25 to 56 percent of the total incidence of the disease, and he is convinced, as is Mueller, likewise, that these figures are too low. They are agreed that the unparalyzed cases of poliomyelitis considerably outnumber the paralyzed. They believe that in cases of this type the general infectious disease-process is present, with possible involvement of the lymphoid tissues, spleen, liver, and other tissues, but without the classic symptom that gives the disease its name.

Wickman has attempted to classify this abortive type and describes four groups, as follows: (1) Cases running the course of a general infection; (2) cases in which meningeal irritation is marked; (3) cases in which pain is very marked and which are likely to simulate influenza; and (4) cases presenting gastrointestinal disturbances. Such a classification is an artificial one, but from a clinical point of view serves as well as any.

Peabody, Draper, and Dochez, whose brochure was cited in the preceding article, have had only a limited experience with cases that do not develop paralysis. Many times, however, they observed some degree of muscular weakness, which sometimes was transient, although not always so. In two instances, the children developed weakness about the pelvis, which made it difficult for them to stand. In another case, which they report in detail, the history of exposure, clinical picture, blood and spinal-fluid examination, and, finally, animal-tests for the virus all supported the diagnosis of poliomyelitis without paralysis. In another case, occurring in a child of three years, the principal symptoms observed were, malaise, anorexia, and drowsiness, all occurring a day or two before the child's brother became ill with a fatal attack. In still other examples of this type, this transitory muscular weakness was one of the prominent symptoms.

Of the other clinical features, it may be said that nervous irritability and drowsiness were the most frequent. Pain was very common, just as in cases terminating in paralysis, and this pain might be either muscular or neuritic, it often was located in the neck or back, and frequently took the form of headache.

The disease which the abortive cases seemed most frequently to resemble was influenza. For this reason, attacks of a disease simulating influenza and occurring during the summer, especially in the neighborhood of a patient who has become paralyzed, should be viewed with suspicion and subjected to quarantine.

REMARKABLE MENTAL CHANGE OCCURRING IN FATAL CASES OF POLIOMYELITIS

The most remarkable feature of fatal cases of poliomyelitis, say Peabody, Draper, and Dochez, in their clinical study of poliomyelitis (see the monograph of the Rockefeller Institute for Medical Research, June 24, 1912, p. 71) is, the condition of the sensorium. To quote:

"The most remarkable feature of our fatal cases was the condition of the sensorium. Three of our patients were so young that observations on their mental state were not of value, but four, between the ages of 3 1-2 and 10 years, showed a very interesting and comparatively constant picture. We have already called attention to the apparent absence of toxic effects in many cases of poliomyelitis, and this is nowhere more strikingly illustrated than in these severe, fatal cases.

"During the prodromata and often during the acute onset of the early paralysis, the children may be sleepy and drowsy in the manner which is characteristic of so many cases. This condition is, however, apt to be mild and transient and it is often soon replaced by a clear mental state. With the onset of respiratory difficulty, it seems almost as if the children were suddenly awakened and made to realize the struggle before them.

"Little children seem to age in a few hours. One sees a heedless, careless, sleepy baby become all at once wide-awake, high-strung, alert to the matter in hand—and this is, breathing. The whole mind and body appear to be concentrated on respiration. Respiration becomes an active, voluntary process, and every breath represents hard work. The child gives the impression of one who has a fight on his hands and who knows perfectly how to manage it. All it wants is, to be left alone, not to be interfered with, to be allowed

to carry out its fight on its own lines. Instinctively it husbands its strength, refuses food, and speaks, when speech is necessary, quietly and with few words.

"One little child of four, so helplessly paralyzed that she was unable to move but with a mind that seemed to take in the whole situation, said to the nurse clearly, but rather abruptly, between her hard-taken breaths: 'My arm hurts'; 'turn me over'; 'scratch my nostril'; and then, when the doctor approached: 'Let me alone, doctor!'; 'don't touch my chest.'

"Pressure on the chest, tight neckbands, anything that obstructs easy respiration is immediately resented. The child demands constant attention, is irritated, unless everything is done exactly as it wishes it, and often shows an instinctive appreciation for some especially efficient nurse. It is nervous, fearful, and dreads being left alone.

"The mouth becomes filled with frothy saliva, which the child is unable to swallow, so it collects it between its lips and waits for the nurse to wipe it away. It likes to have its lips wet with cold water, but rarely attempts to take it into the mouth, for it knows it cannot swallow it.

"During the whole course it is remarkable that cyanosis is absent. There is a little bluish tinging of the lips and tongue, but much more distinctive is the pallor, which is sometimes striking. Sweating is profuse. Then, as respiration gets weaker, the mind becomes dull, and with the occasional return of a lucid interval it gradually drifts into unconsciousness. An hour or more later, respiration ceases."

This peculiar mental state is much less noticeable in small babies, who are more likely to be drowsy most of the time until the end comes, but in older children, this mental alertness is characteristic. The authors say that this has been so strongly fixed in their minds that they prefer to have a child brought to them in a stuporous condition rather than with a mind whose nervous acuity seems due to a perception of impending danger.

PAIN AS A SYMPTOM OF POLIOMYELITIS

Quoting again from the Rockefeller Institute monograph referred to in the preceding article, the authors (Peabody, Draper and Dochez) give the following graphic description of the pain, which, as they state, is a constant feature of the acute stage in every attack of poliomyelitis:

"In general, three types are found: spontaneous pain, pain caused by manipulation, and tenderness of the muscles and nerve-trunks to pressure. These are not all equally common. Pain caused by passive motion is most frequent and seems to depend primarily upon anterior flexion of the spine. The clearest demonstration of this fact occurs when a child's trunk is bent ventrally, shoulders toward hips, to throw the spinous processes apart in preparation for lumbar puncture. Such a procedure brings about immediately a marked degree of anterior spinal flexion and is strenuously objected to by the patient. The entrance of the needle is often unnoticed.

"There are several other manipulations, such as the test for stiff neck and Kernig's sign, which necessitate more or less bending of the spine anteriorly. The ingenious and active efforts of the children to thwart any motion which involves the least bending forward of the spine or, indeed, diminishes a slight protective opisthotonos, have been very striking, so much so that we have been led to believe that the stiff neck of poliomyelitis differed from that of meningitis in being voluntary rather than reflex. With the Kernig's sign also, the voluntary element, where retained muscle-power permits, is even more definite. If flaccid paralysis of a lower extremity makes resistance impossible, there is always complaint of pain when extension is carried until the buttocks begin to rotate forward and upward; but when the muscles have power to act, resistance to hyperextension is definitely voluntary and has not the feeling of reflex spasm.

"This painful bending of the spine is also often responsible for the unwillingness of children to begin sitting up in bed. The symptom occasionally persists for several weeks and, in these instances, is the only thing that keeps a happy, healthy-looking child flat in bed. It is interesting to watch these patients on their backs, playing cheerfully and actively with arms and hands, suddenly look glum, apprehensive, and suspicious when a move is made toward them that may mean raising their shoulders and heads from the pillow. Often early improvement in the paralysis is masked by this painful symptom or the fear of it.

"Spontaneous pain sometimes occurs in poliomyelitis. This is much less frequent than pain on passive motion. Usually it follows the course of the nerves like a true neuritis. It may be very severe. Young children can not definitely recognize limitation of pain to the course of a nerve, and

they complain, therefore, of distress in the whole leg or foot. Such pain may perhaps be more often present than is generally supposed, for it frequently requires much urging and even sharp prodding to make a child move an extremity which seems to be paralyzed, when in reality the muscles have power but are painful.

"In some cases, a child will cry out with pain, which seems to come in stabs and paroxysms. The duration of pain of this sort varies like most of the symptoms of the disease. As a rule, it rarely lasts more than a week. In the case of one adult, the pain was so severe that morphine was necessary on several occasions. With young children, we have used codeine.

"The third painful feature of acute poliomyelitis is, the tenderness of muscles to pressure. Sometimes merely a touch suffices, but usually the muscles must be seized between thumb and fingers and a little pressure made to produce pain. There is little doubt that this tenderness is in the muscles and is not a hyperesthesia of the skin; for, rubbing the skin without pressing on the underlying muscles or even pinching causes no painful sensation. A few cases also have definite tenderness over the nerve-trunks, like a neuritis. In one adult with complete flaccid paralysis of the right lower extremity, who had also great spontaneous pain, pressure over the anterior crural trunk caused intense suffering. Headache is more a symptom of onset than of the acute stage."

DETOXICATING EFFECT OF FAT UPON STRYCHNINE

That fat (lard) diminishes or even destroys the toxic action of strychnine, was first reported in medical print (so far as the Abstractor is aware—so far as this country is concerned) in *The Medical World*, at some time antedating the year 1899, the anonymous correspondent having saved a man's life by feeding him nearly a pound of melted lard. The doctor had read of this antidote also in *The Medical World* (file not available). Then another reader wrote that as long ago as in 1877 his preceptor had had a similar experience, giving one pint of lard. And thereupon a North Carolina practitioner wrote to the journal named that among the piney woods ruralists of those regions it was common practice to feed their dogs melted lard when poisoned with strychnine. This antidotal property was discovered, he explained, soon after the civil war, when the negroes began to keep dogs, and, these killing the sheep, were thrown strychnine concealed in lard or bacon. The fat, the planters discovered, rendered the strychnine ineffective. These data may be found grouped in detail in *The Western Druggist* for 1899, and are very interesting. For a long time these facts were received with doubt in journalistic circles, though eventually accepted.

Now P. Paulucci, of the Physiologic Institute at Rome, has taken up this problem systematically and reported the results of his animal-experiments (*Arch. d. Farm. Sper.*, 1915; cf. *Ther. Monatsh.*, 1915, p. 408).

The author has established the fact that all fats and fat-like substances act to reduce the saponification of strychnine, whether introduced subcutaneously or applied directly to the motor centers of the cerebral cortex or the spinal cord, irrespective of whether the mixture of the alkaloid and the fat contains any water or not. The fat causes an absolute reduction of the toxicity; toxic doses no longer give rise to toxic symptoms and lethal doses do not kill; the period of latency is materially extended. Relatively, the greatest detoxicating influence is exerted by mineral fats (petrolatum), while butter and cerebral substance (lecithin) are lowest in the scale.

DISINFECTION OF THE NASOPHARYNX OF MENINGOCOCCUS CARRIERS BY CHLORAMINE

Experiments were undertaken recently, in the Central Cerebrospinal Laboratory of the Royal Army Medical College, London, for the purpose of determining whether persons carrying the meningococcus in the nasopharynx can be freed of that microorganism by causing them to inhale the air of a room saturated with vapor containing a disinfectant. The disinfectant used in these experiments was chloramine (known in America as chlorazene). The results of the investigation are reported by Lieutenant-Colonel M. H. Gordon, in *The British Medical Journal*, for July 1, and show that

1. The air of an ordinary room, when brought to the point of saturation by means of a steam-spray containing 2 percent of chloramine, acquires pronounced bactericidal properties for the staphylococcus epidermis.

2. Such air can be tolerated by human beings for periods varying from six to twenty minutes without marked discomfort and without harm.

3. When inhaled through the nose, this air succeeds temporarily in destroying the meningococcus in the nasopharynx of carriers. Its sphere of usefulness in this and other respects is being more closely investigated.

We intend to publish a more detailed report of these interesting experiments, in CLINICAL MEDICINE for September. See the editorial relative to this antiseptic, on page 647, this issue.

INJECTION TREATMENT OF NEURITIS WITH HOT SALINE SOLUTION

Some years ago, injections of alcohol into the nerve-tissue were recommended for intractable neuritis, for example in sciatica and in tic douloureux. In an effort to determine whether alcoholic injections into the nerve-tissue are innocuous or not, Dr. Alfred Gordon found that these injections may give rise to decided degenerative changes. He has, therefore, abandoned the alcoholic injections in favor of saline solution of high temperature (*Ther. Gaz.*, 1916, June, p. 392), from which latter he has obtained highly satisfactory results. These injections were repeated at intervals varying from four days to two weeks.

While the time is too short to claim permanent cures, the relief experienced by his patients has been so decided and continuous, that the author recommends this method in the most emphatic manner. Saline solutions of high temperature give better and more lasting results than when the fluid is tepid or cold.

THE TRANSMISSION OF DISEASE BY SPUTUM

The campaign against tuberculosis not only has been effective against that disease, but it has also been of service, in a general sense, in promoting an increased attention to general hygiene, and therefore in a lessening of the modes by which infectious diseases are transmitted. Yet, it must be admitted that even the foremost prophylactic precept, that of the perniciousness of spitting, still is neglected in many places, and that its meaning by no means as yet is fully understood. As Dr. Wallace A. Manheimer (*Med. Rec.*, 1916, June 3, p. 997) points out, the delicatessen-store clerk who moistens his finger with saliva to pick up the piece of paper in which to wrap the butter is spitting on the paper and, therefore, on the butter; the street-car conductor who wets his fingers and then gives you a transfer ticket is spitting on the paper slip and, therefore, on your hand.

The common habit of moistening the gum of postage stamps and envelopes with saliva, the author continues, has suggested the possibility of the transmission of disease through letters infected in that way. The evident contamination of letters when they are sealed and stamped and the frequent spreading of the saliva by the fingers and hand to other parts of the envelope suggest the importance of determining what the danger from this source really is. Letters are handled by the carriers and postal clerks almost immediately after their being mailed, and they are delivered to the addresses sometimes within a few hours, very often within but twelve or eighteen hours after being mailed.

Immediate contact of the hands with saliva and the subsequent introduction of the fingers into the mouth represents a much more dangerous mode of infection than, for example, the inhalation of dried sputum. The discharges from the mouth are responsible for almost as many diseases as are contracted from all other sources put together. Tubercle-bacilli transmitted in wet saliva are far more virulent than when dry and blown in the air. Wet or fresh sputum, when we consider the frequency with which it is spread about, represents the most dangerous material discharged by human beings. The pneumococcus, the diphtheria-bacillus, the germs of measles, scarlet-fever, smallpox, whooping-cough, epidemic meningitis, mumps, influenza, common colds, and other infections are more frequently transmitted through fresh sputum than in any other way. The author named refers to a recent case of syphilis contracted through counting paper money with fingers moistened with saliva, as strongly emphasizing the caution which should be observed from this source of infection.

All these things are so self-evident that they appear to be ludicrously simple. And, yet, even physicians offend against the most ordinary laws, not only of hygiene, but of prophylaxis; as witness the frequency with which one can see physicians moistening their fingers with their tongues to facilitate the turning of the leaves of a book. The present writer has watched one of the foremost tuberculosis-physicians of our country do this same thing time and time again. True, he is not tuberculous and does not injure anybody; but it is, withal, a filthy habit and should be eschewed, if for no other than esthetic reasons.

It must be admitted that as physicians, who are supposed to be the teachers of the people in matters of health, we are not always consistent in our practicing what we preach, and it may be well to consider the warning voiced by Doctor Manheimer, in order to narrow still further the many ways in which infections may be transmitted.

PARATYPHOID FEVER COMMON IN EUROPE

One of the most interesting results following the virtually universal employment of prophylactic typhoid vaccination among the European armies has been the comparative increase in the number of cases of paratyphoid fever. This is strikingly shown by W. H. Willcox, in a paper published in *The Lancet* of February 26, in which he gives the results of a large number of cases treated in the Dardanelles area.

Altogether 150 cases were studied. Of these, 13 1-2 percent were those of typhoid fever, and 86 1-2 percent those of paratyphoid fever. This increasing proportion of paratyphoid fever and the enormous shrinkage in the number of true typhoid fever corresponds closely to the experience in the French army, as already reported in these pages.

The mortality from paratyphoid fever, as reported by Willcox, was found to be between 3 and 5 percent. He believes that this disease, whether it be caused by the "A" or the "B" organism, is more serious than is usually supposed. He urges early diagnostication, the recognition of carriers as a problem, and the adoption of prophylactic measures. At present, the protective inoculation against typhoid fever includes at the same time protection against paratyphoid "A" and "B," a mixed vaccine being employed for this purpose.

PITUITARY GLAND IN THERAPY

Pituitary gland, in one of its various forms or derivatives, is proving an efficacious agent in various ways and is finding extensive application, while, basing upon theoretical speculations, it is being widely experimented with for many pathologic conditions, but the reports upon which are more or less conflicting. Success with this substance is based largely upon its power to raise the arterial pressure (with diuresis as one consequence) and to stimulate the enteric musculature. Upon this subject R. Hofstaetter (quoted by *Muench. Med. Woch.*, 1915) has published an exhaustive collective thesis, and the following conditions are enumerated as among those falling into the categories named and in which it is found useful:

Collapse, postoperative shock, acute infectious diseases exhibiting marked recession of blood pressure, hypophysia (the symptom complex as constructed by Martinei), paroxysmal tachycardia, myasthenia, eclampsia, puerperal and postoperative retention of urine, and postoperative intestinal paralysis. Furthermore, since injections of pituitrin have been observed to induce a condition of somnolency, it is recommended for insomnia and neurasthenic conditions. In combination with adrenalin ("asthmalysin"), pituitrin controls bronchial asthma. Osteomalacia and rickets yield to this therapy. Some have observed increased libido following its use, employing it in impotency, while others believe it to allay sexual irritation.

Other conditions for which pituitary gland has been advised and in part tried are: acromegaly, dystrophia, adipositas genitalis, multiple glandular sclerosis, Dercum's disease, exophthalmos, myxedema, goiter, sclerodermia, Addison's disease, tetany, myasthenia, tachycardia, chondrodystrophia, atcliosis, micromelia; while the following come under the head of gynecology, namely, uterine hemorrhage, hypoplasia, amenorrhea, climacteric and post-castration disorders, vomiting and toxicoses of pregnancy, deficient lactation.

EFFECT OF PITUITARY EXTRACT UPON THE ARTERIAL LUMEN

In the same communication, Fischel (*loc. cit.*) tells of experiments according to which small doses of pituitary extract exert a vasoconstrictive action; this, in opposition to the results reported by previous investigators, who observed the exact opposite action. The latter, though, had employed appreciably larger amounts.

FOREIGN BODIES IN THE ESOPHAGUS

Since, in 1897, Professor Killian, of Freiburg, demonstrated the feasibility of passing straight and rigid tubes through the glottis into the tracheobronchial tree, by reason of its great elasticity, and since he removed, in the same year, a foreign body from the bronchus of a living child and thus demonstrated the usefulness of the procedure, Killian himself has extended his method of direct examination and therapeutic procedure to the esophagus and in 1899 established

esophagoscopy as a practical method. Since then, Killian's method has been improved and has demonstrated its value for the removal of foreign bodies from the food- and air-passages, so that during the past few years it has completely revolutionized our methods of treatment.

Improvements in instrumentarium and technic not only have greatly minimized the dangers, but have enormously reduced the death-rate in cases treated in this manner. Thus, for example, in the case of foreign bodies in the bronchi, when left to themselves, the mortality used to be 58 percent; now, thanks to the direct method, if resorted to early, the death-rate is practically *nil*. Cases, however, are still reported where death has occurred from the accidental swallowing of a tooth-plate or other foreign body, after ineffectual attempts at extraction through the mouth, followed in some instances by the external operation of esophagotomy or gastrotomy.

The blind use of bougies or probangs has also been the cause of many fatalities. The operation of esophagotomy by no means is free from danger, for, the risk of opening the cellular planes in the neck cannot be ignored. Statistics show that esophagotomy for removing foreign bodies is followed by a mortality of from 12 to 20 percent; which is to say, nearly ten times as great as that following extraction by esophagoscopy.

A few years ago, it was held that the extraction of foreign bodies with sharp edges and hooks—dental plates, for instance—is dangerous and that it may lead to fatal injuries of the gullet and adjoining parts. Here, esophagotomy or gastrotomy was held to be indicated. At present, recourse to external surgery is one rarely considered justifiable, unless the foreign body has already escaped through the esophageal wall. In all other cases, no matter how large the foreign body, if it has gone in by the natural passage, it can be brought out by the same route. When swallowed, it assumes the position which offers the least resistance, and it remains for the endoscopist to assist its return journey under conditions that will offer the least resistance. In accordance with this very sensible view, successful attempts have been made in recent years to improve instruments and the technic for the removal of foreign bodies from the esophagus and from the bronchi, in a degree that was not believed possible even a few years ago.

In an interesting communication to *The Lancet* (1916, p. 992), Dr. Irwin Moore, surgeon to The Throat Hospital, at London, describes several new instruments that have been designed for the purpose under consideration. For a full understanding of his instructive paper, it would be necessary to reproduce his illustrations, which is not feasible, and we strongly advise those who may be interested in this procedure to study Moore's original paper, the journal being on file in most medical libraries.

GOITER BENEFITED BY INTESTINAL DISINFECTION

An interesting observation has been communicated by F. Messerli, of Lausanne (*Rev. med. d. l. Suisse rom.*; cf. *Ther. Monatsh.*, 1915, p. 413), regarding the influence of long-continued disinfection of the intestines upon goiter. The subjects were military persons, and they were variously and interchangeably subjected to courses of salol (3.0), thymol (0.1 twice daily), benzonaphthol (0.5 thrice daily), creosote (3 pills), and mechanical cleaning out by means of laxative pills. The goiters, the author asserts, invariably grew less in size.

Doesn't that suggest the value of the sulphocarbolates in these cases? It reminds us that some four years ago McCarrison (see *Lancet*, Feb. 10, 1912) ascribed goiter to the presence of a living microbic organism in the intestine.

TREATMENT OF SALVARSAN TOXEMIA

In view of the frequency of toxic symptoms following the administration of successive doses of salvarsan, Willcox and Webster (*Brit. Med. Jour.*, Apr. 1, p. 473) strongly advise that an interval of four weeks elapse between the administrations of full doses of this drug. With shorter intervals, there is risk of cumulative action, owing to the continued presence of some of the arsenical preparation in the abdominal viscera.

Prophylactic treatment, the authors declare, is most important. An aperient should be given the night before the remedy is injected, and alcohol and tobacco should be avoided for twenty-four hours before and after the administration. The patient should remain in bed on the day in which the drug is given, and for twenty-four hours afterward.

Slight symptoms, such as nausea, slight pyrexia, headache, and so on, call for nothing but the simplest remedies. Should the temperature remain above normal for more th a few hours, the patient should remain

bed until it has returned to normal and remained there for at least twenty-four hours.

It is wise to diet patients carefully until all symptoms have disappeared. The diet should be light, as, for example, milk, milk puddings, fruit, vegetables, toast, bread, and the like. Meat, meat-extracts, soups, and also alcohol are to be avoided. Constipation must be prevented by means of suitable aperients.

When serious symptoms occur, such as collapse, twitchings, stupor, delirium or coma, an intravenous injection of physiologic saline solution (2 to 3 pints) should be given and repeated if necessary. These saline injections may also be made subcutaneously. Rectal injections of physiologic salt-solution, containing also 3 drams of sodium bicarbonate to the pint, should be given every eight hours. When the blood pressure is not low, venesection should be done and about 10 ounces of blood withdrawn, then infusing into the vein an equal volume of plain physiologic solution.

If the patient becomes comatose, it is important to continue nourishment by mouth. For example, 15 ounces of peptonized or citrated milk may be introduced through a stomach- (or nasal) tube every six hours. For collapse, strychnine, 1-40 grain, may be given hypodermically every four hours, while oxygen or oxygen passed through alcohol may be administered, with advantage.

In the early onset of toxic symptoms, the following mixture is to be given every three hours:

Sodium citrate	dr. 1
Sodium bicarbonate	drs. 2
Potassium citrate	drs. 2
Caffeine citrate	grs. 3
Syrup of orange	dr. 1
Water, enough to make	oz. 1

TETANUS PROPHYLAXIS IN THE PRESENT WAR

While, of course, there is a difference of opinion among European surgeons as to the value of tetanus-antitoxin as a prophylactic, the statistics thus far available have certainly seemed to demonstrate that it is an agent of the utmost value. The first report upon it is that made by Hufnagel in the conference of army surgeons in Namur in November, 1914. He reported 2193 wounded treated, and among these 27 cases of tetanus. As soon as the wounded soldiers were being given prophylactic injections of tetanus-antitoxin, tetanus ceased to make its appearance, although 1195 men had been treated in this manner and many of these had received very serious wounds.

Madelung reported 63 cases of tetanus among 8145 wounded, taken care of in thirty-seven hospitals in which no prophylactic injections were employed. This is a percentage of 7.7. In one hospital where prophylactic injections were administered in selected cases, there appeared 107 cases of tetanus among 19,432 wounded, or 5.5 percent. In three other hospitals, where protective injections were given, there occurred, among 2104 wounded, only 12 cases of tetanus, or 0.57 percent—certainly a striking illustration of the efficacy of antitetanic serum in preventing tetanus when used systematically. In 20 cases of tetanus which developed despite preventive injections, it was found that in not one of these had the serum been given on the day on which the wound was received, and in half of the cases the injection was not administered until six days had elapsed.

Goldscheider reported 4 cases of tetanus among 500 wounded, but all of these four had shown prodromal symptoms of the disease before they received the injection of the serum.

The time surely will come when every American physician will feel it a duty to be provided with tetanus-antitoxin for immediate use in the case of every patient suffering from a serious wound.

EMETINE TREATMENT OF AMEBIC DYSENTERY

In view of the probability that American soldiers may be sent to Mexico, it is most desirable that every American practitioner should know something about the therapy of amebic dysentery, since this disease is known to be exceedingly common throughout Central America and by no means uncommon in the southern part of our United States.

Emetine is an effective remedy for dysentery—a specific. Indeed, it is the one remedy that should always be resorted to in these cases; and it can be used with entire safety, without the slightest danger, if the physician exercises common sense and avoids overdosage.

We find an exceedingly interesting paper upon this subject in the "war number" (March, 1916) of *The Practitioner*, (London) this paper being written by George C. Low, of the London School of Tropical Medicine.

In this paper Doctor Low states that he usually gives 1 grain of the emetine hydro-

chloride at a dose, throwing the solution deeply under the skin or directly into some muscle, after sterilization of the surface with iodine and alcohol. When the patient is in bed, the buttock is selected as the site for injection, but any other locality will answer. He goes on to say:

"The next question that comes up for consideration is, How long should the course of emetine continue and what quantities of the drug should be given? I now generally give a course of 12 1-grain injections, one injection a day, or, two a day, to begin with. Toward the end of the course, they may be given on alternate days, if this is found to be more suitable. These figures may be taken as a general standard, but in actual practice they may have to be modified from time to time, according to circumstances and conditions that may arise. One of these is, the occurrence, in some cases, of diarrhea about the fifth or sixth day of treatment. Even though this occurs, one sometimes goes on and finishes the course, or, in other cases, one may reduce the dose or stop for a day or two and then go on again.

"The only way of determining the progress of a case of dysentery is, carefully to examine the stools daily, and for this purpose flat glass stool-dishes will be found to be useful. By this means, one sees at a glance what the consistency of the stool is, whether blood or mucus is still present, the color, and many other details.

"As a rule, the response to emetine is certain and quick. After three or four injections, an improvement will be noticed, fecal matter appearing, while the blood and mucus diminish, and finally disappear. Soon after this, unless, as in some cases, the emetine excites a diarrhea of its own, the stools become solid and formed and the patient, to all intents and purposes, is cured. Even now, however, a slight streak of blood and mucus may be detected on the solid feces, and this means that an ulcer is still open and not healed. In a few days more, this will probably have disappeared, too, and nothing further, pathologically, may be noted macroscopically.

"The stools must now be carefully searched for amebæ or their cysts this examination being carried on, say, once or twice a week for a month or two, in order to determine whether there is to be any return. If amebæ or blood and mucus reappear, a second course of emetine will be necessary. This will not require to be so prolonged as the first and may be given in 1-grain doses every evening, until 6 grains have been taken. Some authorities recommend a second course such as this, even in the absence of any definite symptoms of relapse, and, if convenient, it might be given a month after the end of the first course.

"Larger doses than those described are, in my opinion, unnecessary, and may even be dangerous. Dale has recently described poisoning symptoms in cats and rabbits when kept for prolonged periods of time on doses analogous to those used in man, and this should be borne in mind."

THE TREATMENT OF TYPHUS-CARRIERS

In five cases in which the patients had recovered from typhus fever, the typhus-bacillus still was demonstrable in the feces. The treatment thereupon instituted by F. Kalberlah, at the military hospital of Frankfurt a. M. (*Med. Klin.*, 1915, p. 546), consisted in administering tincture of iodine (Pharm. Germ.), 7 to 15 drops in water three to five times a day one-half hour after meals, and one teaspoonful of animal-charcoal (Merck's, from blood) from three to five times a day. One of the subjects, whose urine also contained the bacilli, received, in addition, urotropine and salol.

Within eight days from starting this treatment, bacilli no longer could be detected in the excreta, although in two of them they were again found after a lapse of time; which, though, readily yielded to the same treatment. At the end of two months, careful tests failed to reveal the presence of any of the offending organisms.

As to whether this therapy applies only to fresh cases or also to older infections, experience must decide. No disagreeable local or general effects made their appearance.

SOKODU: ERUPTIVE SEPTICEMIA CAUSED BY THE BITE OF A RAT

Sokodu or sokoshio is the Japanese name of a disease that is common in China and Japan following the bite of a rat. Formerly it was thought that this disease was confined to the Orient, but recent observations have shown that it occasionally occurs in America and Europe. A description of a case of this kind is given by Fiévez in the *Paris Médical* for April 15, page 388.

Without going into details, we may mention the characteristic symptoms of this peculiar affection, as originally described by Gouget

in the *Presse Médicale* for March, 1912, and verified by Fiévez in the article in the *Paris Médical*, just referred to.

The symptoms of sokodu occur exclusively as the result of the bite of a rat. There is a long period of incubation (of several weeks), then there occur a number of attacks, these being sometimes quite numerous, separated by intervals of apparent cure, and characterized, when completely developed, by rising temperature, glandular enlargement, and a peculiar eruption resembling an exudative erythema.

In the case reported by Fiévez, there was an incubation period of fourteen days after a wound caused by a rat bite had entirely healed, then appearance of ulcerative, necrotic lesions at the seat of the bite, these being much more severe than the original wound and accompanied by decided lymphadenitis. The skin eruption in this case was papular and general, accompanied by high fever. After a week of apparent cure, a second attack occurred, this being shorter, with recrudescence of the original skin eruption. Again there was recovery, followed by a third attack, with very slight fever. The treatment was entirely symptomatic.

MORE ABOUT THE INJECTION TREATMENT OF HEMORRHOIDS

Last month we printed a brief abstract from *The Lancet* of an article by F. Swinford Edwards commenting upon a paper by Dr. Arthur S. Morley on the subject of hemorrhoids, which we had the pleasure of reproducing in our May issue. In the April 22, 1916, issue of *The Lancet* (see p. 886), Doctor Morley criticizes Doctor Edwards' criticism of his paper.

In this latest contribution Morley says that he invariably uses the speculum in every rectal case, because *only through its use is it possible to diagnose accurately many rectal lesions*. There are numerous cases of hemorrhoids in which bleeding, pruritus and other troublesome symptoms exist but in which the piles rarely or never prolapse, and cannot be made to do so. In order to diagnose them, they must be seen, and the only way to see them is to pass a speculum. Naturally, the only way to inject these piles is through a speculum. In this respect he disagrees absolutely with Edwards, who only injects such piles as can be protruded. This restriction, Morley declares, "deprives by far the larger class of patients of the benefits of the injection method and reserves it for the worst cases, in which its success is least certain."

Doctor Morley says that he rarely needs any assistance, though he always uses a speculum. He has never had any trouble with hemorrhage, which never exceeds a few drops. It can be readily soaked up with a single swab. He finds it quite easy to inject the fluid into the center of each pile or into its base and he can easily reach high-lying piles by means of the speculum—piles which, though large, are unlikely to come down outside the anus.

THE TREATMENT OF GRIP

There are many remedies for the treatment of grip, but, of course, there is no specific. However, Dr. Beverley Robinson, of New York, in a paper printed in *The New York Medical Journal* for February 12, praises highly the following combination, dispensed in capsules:

Ammonium salicylate	grs. 3
Caffeine	gr. 1-4

Two such capsules (or double the amount may be put into one large capsule) should be taken by an adult, every two hours, for four or five doses, and then every three or four hours. He asserts that very decided benefit follows the use of these capsules. They are the most useful remedies that he has tried for the treatment of grip.

In addition to the preceding, Doctor Robinson adds 1-2 grain of phenacetin to each capsule, providing pains are severe; but in that event the patient should be watched carefully. He further advises the insertion of a little carbolated petrolatum into the nostrils; also a mouthwash and gargle of alkaline antiseptic solution (N. F.).

While he has never used the foregoing ammonium salicylate combination for preventing attacks of influenza, he is inclined to believe that it might be useful for that purpose. He also suggests the desirability of alkaline medication in these cases; for instance, the use of Vichy water or simply sodium bicarbonate in association therewith. Isolation of the patient is advised.

OPTOCHIN AS A CHEMOTHERAPEUTIC AGENT IN MALARIA

As evidenced by a number of notes printed in these pages, ethylhydrocuprein (or, optochin, as it has been termed for short by Morgenroth, its sponsor) has acquired a safe reputation in the treatment of pneu-

mococcus-infections and in ophthalmology, but it also bids fair to prove useful in protozoic diseases, more particularly in chronic malaria.

In the latter respect, Izar as well as Nicosia have reported extensive excellent successes (*Berlin. Klin. Woch.*, 1914), while from among subsequent writers we quote Emil Liefmann, of Frankfurt a. M., who describes his result in one such case (*Ther. Monatsh.*, 1915, p. 260). All these clinicians consider optochin superior to plain quinine in these affections.

Liefmann's case was one of malarial anemia, contracted some three years previously in German East Africa, the attack supposedly having been cured at the time; but the man (a 28-year-old civil engineer) had continued to take quinine prophylactically until he returned to Germany two years later. In the course of months, however, he began to sicken, and the author, when consulted, diagnosed a severe form of the condition named and the existence of a greatly enlarged spleen, and likewise enlarged and indurated liver. The microscope revealed the presence in the blood of the Laveran semilunar plasmodia and a few small rings of the "tropica"? The relatively small numbers of protozoons in the peripheral blood, together with the splenomegalia, warranted the assumption that the parasites were heaped more in the deeper-seated organs.

Because of the known resistance of the macrogametes to quinine, Liefmann prescribed ethylhydrocuprein hydrochloride in doses of 1-2 Gram (7 1-2 grains) three times a day, besides ordering a roborating diet.

We omit the clinical picture and laboratory findings, confining ourselves to the result. The treatment began on the 18th of March, 1914, and by March 27 the abdominal tension was greatly diminished, while the patient's appetite was enormously stimulated, amounting almost to voracity. By the 31st, his condition and appearance were much improved, the evening temperature for two days had not exceeded 36.7° C., and the spleen was markedly reduced in size. The optochin now was reduced to two doses a day, but supplemented by arsenous acid in increasing dosage. By April 6, the subject declared himself as being cured; however, the spleen still showed some enlargement, while after a long search over three blood smears a single macrogamete was discovered. Consequently, the optochin, 1-2 Gram per day, was continued for five days longer, and on the 16th of April the spleen did not evidence enlargement under percussion, although palpable at very deep inspiration. Parasites were absent. The patient had a rosy appearance and had gained 10 pounds. The hemoglobin-content of the blood was 80 percent.

Thus, within the short period of three weeks, by means of ethylhydrocuprein, a clinical cure of pronounced chronic malarial anemia was effected, an enormously tumefied spleen reduced to normal size, and persistent forms of malarial plasmodia were made to disappear from the blood.

The author hails this as a triumph over ordinary quinine-therapy; whether, the cure was absolute, however, cannot be determined, the subject having immediately returned to his post in Africa.

It may be mentioned that the patient experienced ear-noises, tremors, and ocular flickering, and, while taking the three daily doses, a confused sensation; which symptoms, however, always passed away after an hour at most.

THE FATE OF PAPAVERINE IN THE ORGANISM

Some highly interesting animal-experiments conducted by K. Zahn, of the Pharmacologic Institute at Breslau, have been described in the *Biochemis he Zeitschrift* (1915, p. 444.—Cf. *Ther. Monatsh.*, 1915, p. 270), the outcome of which would, for one thing, seem to explain why—as has been observed—patients rapidly become dulled against papaverine when physiologic doses are repeated at relatively short intervals, while, secondly, presenting a further possibility of the ultimate fate of the active principles in the animal economy.

Hitherto we knew of but two ways in which alkaloids were disposed of, namely; either they are excreted unchanged in their entirety—strychnine, for example—or, like atropine, they are partly destroyed and in part excreted unaltered.

Now, however, the extensive series of delicate experiments by Zahn have demonstrated for papaverine that that alkaloid is rapidly and utterly annihilated in the system when introduced parenterally. At least, that is the reasonable deduction, for its presence can not be demonstrated in any organ or in the excretions, nor was the author able to discover any derivatives or products of catabolism. Only when super-

lethal doses of papaverine were given by mouth, appreciable amounts of it could be found after death; and then only in the digestive tract of the animal. Incidentally, the facts here developed will prove of considerable forensic interest.

One other fact should be noted in this connection, namely, papaverine-sulphonic acid exhibits a physiologic action contrary to that of papaverine itself, in that it not only is extraordinarily nontoxic, but a large percentage of it can be regained from the excreta in an unchanged condition.

A few posologic addenda may here be adduced from Doctor Zahn's experiments. Rabbits are not readily affected by papaverine; not less than 1-4 Gram per kilo weight is required to induce moderate respiratory acceleration. Cats and dogs are much more sensitive to it, in that doses as small as 0.06 Gram per kilo-weight give rise to severe toxic symptoms—tremor, staggering gait, hyperexcitation followed by paralysis—while 0.12 Gram per kilo kills a dog within a few hours.

BALANTIDIOSIS CURED WITH EMETINE

A further extension of the rapidly widening therapeutic field of emetine has been reported from South America, the spokesman being Dr. Relli Axter-Haberfeld, of Belio Horizonte (Brazil), his highly important contribution to the literature having been published in the *Muenchener Medizinische Wochenschrift*, 1915, page 152.

The author (who bears a Portuguese-German name) had for a patient a 60-year-old woman afflicted with a severe balantidiosis and, reasoning from dysentery and pyorrhea, concluded to give emetine a trial. The result was a brilliant one.

Once each day, he administered a subcutaneous injection representing 0.03 Gram (1-2 grain) of emetine, until a total of 0.25 Gram (4 grains) of the alkaloid had been given; in other words, 8 doses of 1-2 grain in eight days.

For four months, the woman had had on an average daily 12 liquid alvine discharges, mixed with blood and pus, and, consequently, was emaciated in a high degree and unable to stand unsupported; but had no fever. The emetine course cured her of this affection completely, and permanently. After the first dose, she had but one stool within twenty-four hours. And so it continued, the stools improving, while no more balantidia were found after the third day, not even dead ones. At the points of injection, there had formed intensely itching eczema-like patches, but these disappeared readily upon the application of some appropriate unguent.

This parasitic affection seems to be but rarely encountered, so that the editions of Gould's and Stedman's (the two dictionaries at the abstractor's disposal at this writing) do not even contain the (properly constructed) term balantidiosis (or, is balantidi asis better?), while there even still exists doubt as to the specific symptom-complex being ascribable to this organism. As to this latter question, that possibly find its answer, in that some investigators recognize both a pathogenic and a nonpathogenic species.

Balantidium means, a sacculate creature (dim. of Greek *balantion*, bag; *balanos*, acorn, something "ball"-shaped; hence, also, glans penis); other names for this infusorian parasite being, paramœcium coli, plagiostomacoli, leukophrys coli, and holophrya coli. It is a protozoon, and was first recognized as long ago as in 1856. It is found abundantly, and principally, in the colon of the pig, but also occurs in man, more especially in Russia, Sweden, Italy, Cochin-China, and China, to which here is added Brazil. In Europe, it predominates in the more northern countries, and prevails principally among the peasantry— people in contact with the swine.

In its natural host, the pig, no serious disturbances occur when thus infested, while in man—as we have seen in the foregoing—profuse, obstinate, and exhausting diarrheas are caused by it, very much, we see, as in that other protozoic affection, amebic dysentery. The balantidium is supposed to be protected against the gastric juice by its encysting capsule. Its presence may be discovered by introducing a sound into the rectum, when the protozoa will be found in the adhering mucus.

The importance of Doctor Axter-Haberfeld's announcement, this writer's opinion is, lies in the fact that here we have an instance of emetine being antagonistic to a protozoon belonging to another genus than those of dysentery and of pyorrhea. Furthermore, this discovery is doubly gratifying, inasmuch as heretofore the treatment of the disease has been purely symptomatic (astringents—uzara); while the management now has been placed upon a scientific basis and a cure almost is assured. This should appeal to our readers in some of the tropical countries where this affection prevails, and also encourage them to try it in other forms of protozoic parasitism.

Miscellaneous Articles

Summer Diarrhea. Also an Inspiration from the Columbia Highway

I NOTICED yesterday, while riding over the Columbia Highway, that at a place called Oneata Gorge you can see for a long way between the projecting crags of the gorge if you stoop down and look along the surface of the water. If you stand up, the shoulders of the frowning cliffs that reach from the water to the very clouds hide the view. Now, if, as I said, you stoop down you will be able to see, 'way up the gorge, a little corner of a green meadow or what appears to be a green meadow. And it really is a little corner of an immense green meadow, but one that no one hitherto has ever visited. I will not say that it is so situated that none has ever been able to visit it, but mean that no one up to this time has seen fit to do so. In the center of this meadow, as I understand it, there is a very beautiful city—a surpassingly beautiful city. Its Corinthian columns are the vines and tendrils of the Oregon grape, its walls are rose-leaves, and its roof is of turquois, but which, I am led to believe, under ordinary circumstances a lot of people mistake for the sky. It is presided over by the God-of-Things-That-You-Want. One of these days, when I have a little spare time and the water in Oneata Gorge happens to run extra low, I may decide to go up there to that charmed emerald mead.

I am led to believe that in a place like that there will be present no summer diarrhea; but, such a place being more or less Elysian and at the same time inaccessible, we must take such measures anent the treatment of summer complaints as time and experience seem to justify.

The most noticeable and interesting thing in connection with the summer complaints of children in this locality is, that during the past few years it has almost disappeared. Twenty-one years ago, when I began to practice here, there occurred many cases each year. The "epidemic" would begin about July 15 and continue, with considerable severity, until about the latter part of October. The past few years, though, have not seen this program repeated to any very noticeable extent.

This decline in these seasonable diseases is due, I believe, to the present supply of pure milk and pure water, and to a better supervision generally over the foodstuffs that are sold in our city. I was about to say that a more intelligent attention to general hygienic conditions, on the part of the mass of the people, had a lot to do with this decline of the disease; only, I am bound to say (between ourselves) that I have but little confidence in the people in general to take care of themselves. Improvement in the general health of the community along these lines is the result of efforts of the health-authorities, backed by the sentiment and practical efforts of the medical profession.

The several types of digestive troubles that we are called upon to combat are: gastritis, gastroenteritis, acute colitis, and a sort of combination of two or more of these troubles. A somewhat curious thing in connection with the decline of these troubles in this community is, the great apparent increase of acute colitis. It seems to me that about one-half of the cases encountered are colon infections, whereas these formerly were much less frequent — that is, comparatively speaking.

As to my mode of treatment, I fear, I have nothing to offer that is new or so very interesting. The initial dose of calomel and castor-oil has been tried in the crucible of the years and found to be right. I have not the slightest doubt but that the judicious initial purgative dose administered by careful parents and nurses who have been properly instructed by their family doctor has saved thousands of lives. To my way of thinking, it should be given virtually always, irrespective of what the whole chain of circumstances may be in a given case. Where active vomiting is present the calomel should

be given in 1-20-grain doses, often repeated, to a child up to five years of age, until the vomiting has stopped. Ordinarily 1-10 grain at a dose is proper, until the sufficient total quantity has been given. Should the attack be very mild and the calomel act well, it is sometimes proper to omit the castor-oil.

In acute gastritis, one may often have quite a nice little problem to work out. The doctor must know, before he begins with the calomel, whether he has acute gastritis or one of the more serious surgical diseases of the abdomen to contend with; the one condition being very simple, the other attended by the greatest danger.

Should a considerable rise in temperature occur, aconitine and atropine are indicated. These should be given in minute but often repeated doses. I believe that atropine has never yet been accorded just its proper place in the treatment of this class of troubles, for there is seldom a case in which the indications for atropine will not be found. This is particularly true of that grave and dangerous condition named cholera infantum. To my mind, that condition affords a remarkable picture—an extreme picture of the indications for atropine. These remedies will not have a tendency to provoke additional vomiting, according to my observations.

The state of the tongue affords another indication for treatment. A furred tongue (and it usually is furred) calls for the sulphocarbolate of sodium, or the combined sulphocarbolates, according to Abbott and Waugh. It should be remembered that either of these remedies may easily be given to children by mixing it with milk-sugar. A child of one year may receive one grain every two or three hours.

A certain matter here occurs to my mind in connection with the sulphocarbolates. With all due respect to the "inventor" of the combination of the three sulphocarbolates, it is my honest opinion that he does not recommend a sufficiently large dose in the ordinary conditions. My reason for thus "speakin' out" is, that I do not get results from the dosage recommended. When, however, I double this amount or maybe make it three times larger and repeat it oftener, then I do get results. Consequently, I now give to an adult 10 grains of the combined sulphocarbolates every two or three hours for the first two or three days, but "with one eye on his stomach," and for a child of one year I prescribe 1 grain, in like manner. You will see that the dose for the child is just twice that for the adult, under the age-rule.

We are all beginning to understand that it is not absolutely necessary to exclude milk from the diet in the treatment of summer complaint, provided the milk is pure and we do not neglect the Bulgarian lactoid tablet. This ferment is a special boon to the weakly child—which also is the one most likely to be affected. A mite of discrimination is necessary, however, for, if there be certain states of acidity of the stomach, the lactic-acid ferment may do harm. This I believe to be so unlikely, though, that we might add these tablets to our list of unfailing remedies for this condition.

It has "done rained and rained" and our ball-team has a hard time of it, and we cannot see the games, for "they ain't none." My ranch, and the logan-berries that I have there, are doing fine.

J. H. Bristow.

Portland, Ore.

[It rains in Chicago, also, and it keeps on raining; but we have baseball games—and good ones, too. Also, we can boast of the most delightful climate, and have mighty little diarrhea among us, thanks to our drainage-canal, our water supply, and a helpful health commissioner, who doesn't want doctors to overwork during the summer months, realizing their need for a vacation once a year.

I have ridden along the Columbia Highway, so, I can visualize that beauty-spot up Oneata Gorge. Still, who but our friend Bristow could find in it a text for the treatment of infantile diarrhea? Good treatment, too, and bound to be followed by excellent results, in steaming eastern cities as well as in the ideal climate of the Oregon Coast.—Ed.]

THE WESTERN MEDICAL TIMES

The reading matter of medical, as of other publications is produced either with the aid of the pen (which is a euphonism for the typewriter), or with the scissors. Both methods require brains. In the former case the journal has to rest entirely on the merits of its original matter; in the latter the original matter is supplemented by the more or less careful reproduction of the results of other workers in the field of medical publicity.

In *The Western Medical Times* for July, the editor, Dr. George L. Servoss, has produced not only a very interesting, but an eminently readable journal, which is characterized by being entirely original. It is "different" in the fearlessness with which it attacks several matters of which the editor

disapproves. Not to mention the courageous and clever defense of that so-called prince of quacks, Paracelsus, it requires courage to discuss so pitilessly the faults and shortcomings of a medical treatise, as is done in the second article, and also in the third editorial.

In the matter of book reviews also the *Times* attempts to set a standard which is beautiful if it can be lived up to. Altogether the number is well written and splendidly edited. We congratulate the contributors and the editor.

HOW I TREAT DYSENTERY, ENTEROCOLITIS, AND OTHER DIARRHEAS

Elimination.—My experience enables me to speak "authoritatively": Clean out, clean up, and keep clean.

Intestinal antisepsis should be strictly practiced; sanitation strictly enforced, as to premises, dwellings, and room; patient's room kept quiet, cool, and well ventilated; company and all other disturbing influences avoided; complete rest, both physical and mental, enforced; patient's body kept scrupulously clean; excreta disinfected and buried or poured into a good sewer, or, best of all, burned; flies not allowed to enter the house, especially the sick-room. The diet is all-important; see to it that your favorite diet list is strictly adhered to. Sweet milk in every form, whether scalded, boiled or peptonized, is to be avoided. Only albumen-water, white of egg in water, is allowed for the first twenty-four or forty-eight hours. Water should be drank frequently, hot water liberally is good. Give parched-flour gruel, rice-gruel, broth or soup of chicken, mutton or beef or beef-extract, when these do not prove too laxative; also buttermilk and liquid peptonoids. Squirrel extract, made the same as beef-extract, is best of all, and especially good for children suffering from colitis; I have employed it for years. Overfeeding is to be strictly avoided.

Nutritive applications. — Fresh unsalted butter rubbed well into the skin, three times every twenty-four hours, all that the skin will absorb, or else pure hog's lard or olive-oil, is fine for emaciated babies and children. Pure corn-whisky externally applied (not given internally) is often a lifesaver, by stimulating and supporting the vitality. This is true notwithstanding the assertion heard, that whisky never acts as a nourishment or stimulant, but always depresses and poisons. Warm the whisky and rub into the skin of the trunk and legs. A good way for babies and young children is, to saturate soft pieces of cloth with the whisky and place them under each arm; this affording a gradual and continuous absorption. For an adult, one or two tablespoonfuls may thus be applied every one, two or three hours; for children, in proportion. Gauge the amount, frequently applied, so as to steady the pulse and to support the system, avoiding overstimulation. When needed, use the whisky freely in this manner.

I have in mind the case of colitis of long standing, in a child two years old. This baby was very much emaciated and had not been able to take food for some time. I continued these whisky-rubs for weeks, which kept life and strength in the child when so weak, often, that the pulse and respiration would cease, and at times I was forced to resort to artificial respiration. The child now is a grown woman.

Never give up, but work, work, work.

Another child had a catarrhal condition of the bowels. This child, after growing very thin and weak, ceased to take nourishment in any form, and for four weeks food did not enter its mouth. We kept this little girl alive during all this time by means of the applications of whisky. It is needless to cite other cases. While the whisky will nourish and stimulate, it will not keep up the bodily warmth; hence, hot-water-bags or similar devices must be kept near the patient.

Tympanitic distention and pain of the abdomen.—Two or three times daily rub over the bowels a mixture of oil of turpentine, camphor, and lard; also keep applied a hot peach-leaf poultice. This is especially good for children.

While the fever is active, sponge the body frequently with a solution of epsom salt.

For exhaustion, nutritive enemas are more likely to be retained by adults. Antiseptic and astringent enemas and bowel flushings prove of great service, but overdistention of bowel must be avoided. Antiseptic and healing enemas, as of oil of turpentine in olive-oil, and retained, may be necessary. For the gas, pains, and so on, give enemas or tincture of asafetida, oil of turpentine, of kerosene.

Consultations.—To help the patient and aid the regular physician in charge, when needed or desired, call in a real doctor, one who is acquainted with his medicines and who believes in them. Avoid the self-constituted "stomach-specialist" who does not believe in medicine. If a "stomach-specialist" is desired, get one who not only believes in proper

diet, but one who also believes in medicine and knows how to use it. Generally the so-called stomach specialist voices the now obsolete cry, "I do not believe in medicine"—a confession that he knows nothing about medicine. He then proceeds to discuss what he thinks he knows about the germ- and the diet-theories, with all of which the physician in charge is perfectly familiar. This wise guy persists in discussing the all-curative power of diet—his formula, of course—in opposition to the medicinal treatment. He does not know of or advise a single remedy for the relief of anyone of the acute symptoms, though he calls himself a doctor; crying diet, diet, when the child cannot eat, when the agonized father appeals to him to relieve the sinking pulse, the burning fever or threatened convulsion, while the heartbroken mother extends her arms as if to hold the little sufferer yet awhile longer with her, while praying with all her soul for the return of the lifetide to the little one.

C. W. Hunt.

Brevard, N. C.

THE GOLDBERGER THEORY OF PELLAGRA

With reference to your editorial comment, in a late issue of Clinical Medicine, on the "Goldberger Theory" on the etiology of pellagra, I wish to state here that before Doctor Goldberger promulgated his theory I was fully convinced that pellagra was caused by a onesided diet. Moreover, when one takes into consideration the economic factor, he cannot fail to appreciate Goldberger's views and the far-reaching importance of his investigation.

In this locality, as in most of the cotton-producing country, the cotton is raised by renters or sharehands. These tenants are furnished their necessities by the landlord or by some merchant who holds a mortgage on the prospective crop. The tenant, as a rule, is furnished little besides cornmeal, "fat meat" which usually contains little or no lean (in other words, bacon), compound lard, molasses, and snuff and tobacco, besides, sometimes, coffee and sugar. If any person has to live on this diet, from March 1 to cotton-picking time in October, before he can get the kind of food he really wants and requires, is it any wonder that a chronic disease such as pellagra is on the increase? I do not believe that sanitation has a thing to do with it, for, the people who live under good sanitary conditions and are able to supply themselves with other things to eat besides cornbread and fat meat and molasses are not subject to attack.

I am not condemning the idea of good sanitation, drainage, housing, screening, and so on, but I see no need of attributing all disease-condition to bad sanitation, when the economic situation is at fault. The man who owns his farm, and is free of the crop mortgage system very seldom is a victim of pellagra; but, when he is, if he then is put upon a proper diet, there is no question as to the outcome.

I have had under treatment about thirty cases this year and have three bad ones under my care at present. I have been treating from twenty to fifty pellagra-patients each year for several years, and I think I am better able to express an opinion than the man who sees a case of pellagra only occasionally.

J. F. Hilburn.

Moscow, Ark.

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[This argument in support of the Goldberger theory of the origin of pellagra is well taken and evidently is dictated by the results of close clinical observation. We are far from denying the importance of faulty nutrition as a causative agent in the production of this disease; our position is, that the *relative* importance of this subject is not yet established.

So far as we can see, the factor of faulty nutrition possesses the dignity of a contributing or predisposing cause, and we must look further back for the primary cause of the disease. The same role is played by faulty nutrition in the development of other wasting diseases, most notably phthisis, of which it was held to be the principal cause at one time. There is nothing surprising in the fact that improvement follows in pellagrins when a more suitable dietary is arranged; the same is seen in all disease in which malnutrition and its various sequelæ are of importance. Nevertheless, this fact is not sufficient to establish poor nutrition as the sole etiologic agent in the causation of pellagra.

Referring to the exhibit made by the Post-Graduate Medical School and Hospital, at the late meeting of the American Medical Association in Detroit, we cannot understand how anybody who studied this exhibit and who spoke with Doctor MacNeal or one of the other men in attendance could fail to be impressed with the great value of their investigation. This report is based upon a careful individual, social, and epidemiological study, by trained investigators, of 847 cases

of pellagra occurring in Spartanburg County, South Carolina. The advantages of studying all the evidence that can be secured in a circumscribed neighborhood, but where yet sufficient variations prevail as to locality, social condition, mode of life, occupation, and the like, are obvious. The fact that the members of the commission were particularly adapted for their work by special training and that they had every possible aid and assistance at their command is also to be taken into consideration in evaluating the importance and bearing of their findings.

The fact was established that, with very few exceptions, pellagra occurred in persons living in houses in which pellagrins had lived before them or in persons who had lived in close contact with pellagrins; the conclusion is that association is a factor, in the spread of pellagra, of much greater importance than has previously been assumed. The conclusion also is warranted by their findings that, in the mill-villages investigated by the commission, pellagra in some way is transmitted to non-pellagrous persons from a preexisting case, and that one of the important factors in this transmission is, residence in the immediate neighborhood of a pellagrin.

The endemic character of pellagra in villages where unscreened surface- or pail-privies for the disposal of human excrements are in general use, and, reversely, the fact that pellagra did not occur endemically in other villages in which every house was provided with a water-carriage flush-closet connected with a sewer, as well as other similar observations, have compelled the investigators to regard inefficient methods for disposal of human excrement as an important epidemiologic feature in those communities in which pellagra is endemic.

In our endeavor to maintain an open mind in the study of this important disease, we are impressed by various considerations: Doctor Goldberger regards the fact, that six out of eleven convicts who had been put on a certain badly balanced diet contracted an affection diagnosed as pellagra, as sufficient evidence to justify the assertion that the cause of pellagra no longer is in dispute. The members of the Robert M. Thompson Commission point out only those conclusions that are fully justified by the results of their studies. They do not pretend that they have found the ultimate cause of the disease, and make full acknowledgment of the contributing importance of malnutrition from a badly balanced diet as an associated causal factor.

It seems to us that the work of a commission, carried on under the conditions obtaining in the investigations of the Pellagra Commission, is deserving of credit, and it behooves us to wait patiently for their final verdict, keeping in mind that this can not be rendered probably for years.

In the meantime, it is for us to adopt that treatment which has given the best results, including that of promoting a full and normal nutrition by regulating the dietary; also, to make use of those drugs (antiseptics, in the main) which aid in removing from the intestinal canal all offensive and septic material and in healing intestinal lesions. For the present, the treatment of pellagra must be directed by general principles; in the course of time, we may hope to find specific remedies. But, even if we do, close attention to the nutrition will always be one factor of primary importance.—Ed.]

"THE MODERN HOSPITAL" AND INDUSTRIAL WELFARE

We admire *The Modern Hospital* as a remarkably beautiful and fine journal which has a wide scope of interests, and covers many diversified phases of hospital activity, including social service. We are informed that the August number is devoted to a symposium on welfare work among the industrial corporations of the country, and contains editorials as well as special papers upon the subject by men and women who are fully qualified to write upon them, because of special studies and investigations. Among the topics discussed are those of first aid industrial nursing, lunches and diets for industrial employees, safety devices in factories, and athletic and social clubs for employees.

In the opinion of *The Modern Hospital*, welfare work should aim to secure three things, namely, to make employees healthy, comfortable and happy, increasing thereby their efficiency; to help them to provide for sickness and disability; and to provide entertainment and recreation. The journal also attempts to eliminate features of industrial welfare which are believed to be undesirable, and to emphasize those best suited to the needs of the American public. We congratulate *The Modern Hospital* on its own excellency and efficiency.

THE TREATMENT OF MALARIA

Too many of us think that, because quinine is recognized as a specific for malaria, all we

have to do is, to give quinine, and then more quinine. Some of the worst nervous wrecks I have ever seen were made such by the excessive use of quinine. Others of us go a little further and think that we always must begin the treatment with a good calomel-purge; then proceed to give from 8 to 12 grains of calomel, and, if the tongue still stays furred, we repeat the dose—literally "ad nauseam."

Now, both of these things are essential: although not always the calomel. In fact, in my experience, it is but rarely necessary to give the calomel or any other mercurial, or, if at all, only in very minute doses, say, 1-10 grain at short intervals until 10 doses are taken, following this with a brisk laxative saline. This method gives me more satisfactory results than does heroic dosage. The quinine, while essential, should not be given in large doses. From 1 to 1 1-2 grains every two hours will do the work as effectually and with more comfort and less untoward results to the patient than will many times that quantity.

All malarial patients require acids, so, I include in my dietary list all acid fruits, pickles, tomatoes, and the like, and, in addition, prescribe hydrochloric acid in some form, preferably with essence of pepsin, after meals. Try this, and see how grateful a patient can be; also, witness the happy results obtained.

Do not starve malarial patients. I restrict the diet but very little, but am governed largely by the appetite. If the patient is hungry, I allow him to eat almost anything he wants; if he is not hungry, I do not force any food upon him. The next time you are tempted to give a calomel-purge, ask your patient whether he would like to make a full meal on green corn. If he says yes, let him eat all he wants, and charge the corn to me if you don't get a better effect than you would from your calomel.

That old chronic case of malaria that will not yield to quinine in any-sized doses cure with this prescription:

Potassium nitrate.....dr. 1
Ferrous sulphate, exsiccated.....dr. 1
Nitrohydrochloric acid.....drs. 6

Mix, warm slightly, let thoroughly digest, then add:

Liquor of potassium arsenite.....drs. 2

Directions: Take 7 drops in plenty of water, after meals. [Suck through a glass tube, and, after a swallow of water, quickly rinse the mouth and *teeth* with a weak solution of sodium bicarbonate.—Ed.]

If you are a country doctor and have to furnish your own medicine (as I used to do), and you have a charity patient whom you do not want to take up much of your time and you want to cure right quick, so as to get rid of him, tell him to buy a bottle of quinine, then to measure out one level teaspoonful of it, divide this into four parts, and to take one such dose in a teaspoonful of good apple-vinegar every two hours for two or three days. Also, to take a tablespoonful of castor-oil every night. Then you can go home and sleep the sleep of the just, conscious that you have done a good deed to a fellow wayfarer in this vale of tears.

Warning: Do not give this advice to your good pay patients, lest they think that they cured themselves and feel disinclined to pay your bill.

Fully half of my patients are victims of some form of malaria. The treatment outlined will cure them here; it may not do so well further down south, but I believe that it will.

E. H. Bowling.

Durham, N. C.

MALARIA AND DYSENTERY

I am resting this summer and feel lazy, so, your letter was quite welcome. One or two definite questions of yours are easy to answer.

Malaria.—My experience with malaria, in hospital and private practice, in the Philippines and in Florida, leads me to the following conclusions:

1. Every case of benign tertian, malignant tertian, (remittent or estivoautumnal), or quartan malaria can be cured with a single dose of quinine, provided the following conditions are observed: (a) The dose must be large—20 to 30 grains. (b) It must be given at the right time—six to twelve hours before the chill. (c) It must be single. Cases which have been treated with repeated small doses of quinine are not amenable to the single-dose treatment. (d) Cases of double or multiple infection are to be considered as separate cases, though in the same patient, and are treated accordingly. For example: A case of chills occurring every day, but at 10 a. m. and at 3 p. m. on alternate days, evidently is double tertian. This patient should get one dose of quinine on retiring the night before the 10 a. m. chill is expected, and a dose at 9 a. m. (or earlier) on the morning of the 3 p. m. chill day. (e) The quinine must be in readily assimilable form. Some quinine pills I have tried could be driven with a hammer into a board without

cracking them. They passed through the patient in the same unvanquished state. Friable tablets, powders, capsules and suspensions all are good, but the first-named are far more pleasant for the patient to take. (f) When putting a single dose of medicine into a stomach and depending on it to do anything, it is a good idea to be sure that the organ is in working order. I once found, at necropsy, some unchanged quinine tablets in the stomach of the corpse.

2. The single large dose given as here advised is harmless and never produces cinchonism, unless it is repeated.

3. Most patients can be cured with small doses, many even with minute doses, but, (a) It takes longer. (b) Repeated small doses (2 to 5 grains) usually produce cinchonism before they cure. (c) Many sufferers cannot be cured with small doses, because a strain of plasmodia has been developed that is resistant to quinine. Such cases result fatally or become chronic and run into cachexia. Some of them are amenable to arsenic, but a case which has been immunized to quinine is very difficult to cure. Oleoresin of capsicum is a very good tonic, but it is better as a preventive than as a cure.

4. There is a form of tertian malaria that is very fatal and not amenable to quinine in any dosage, but which can be cured just as promptly and certainly with nuclein. This form fortunately is unknown in Florida and rare in the Philippines, but I have heard that it is comparatively common on the west coast of Africa.

5. The foregoing applies to the sulphate of quinine. I have not studied any of its other salts in malaria.

6. The initial chill in a recent sthenic case may be broken up and the attack aborted with pilocarpine, 1-3 grain hypodermically. Later, and in an asthenic case, pilocarpine is too depressing, and, if used at all, should be strongly guarded with strychnine.

Dysentery.—Clinically, there are only two kinds of dysentery. If the onset is gradual, the course chronic, the blood loss small, the discharge of mucus large, then the case is amebic.

Treatment of *amebic dysentery:* Emetine, 1-2 grain hypodermically, and alphozone administered in enemas. Either of these two remedies given as above will cure, but both together cure in less than half the time when given singly.

Emetine acts through the blood, and only so. It is doubtful whether it is of any use locally, except as it is absorbed into the blood. It cannot penetrate the mucus or the cysts that enclose the amebas.

Alphozone acts locally, and only so. It is an oxidizing agent and an amebicide of great power. It dissolves the mucus and the cystic envelopes, and destroys the amebas in these strongholds better than will anything yet discovered, so far as I know. I have not found it satisfactory given internally. It must be applied locally in solution of sufficient strength—1 : 1000 at least. Alphozone is harmless in any degree of concentration. It is better than emetine as a local amebicide in pyorrhea. It has the unpleasant metallic taste of the peroxides.

A sudden onset, acute course, much blood, and comparatively little mucus indicate *bacillary dysentery.*

Thymol is useful in both forms of dysentery. It is a bactericide, and it kills amebæ by destroying their symbiotic bacteria. The cleanout and cleanup process obviously is important as an introductory as well as adjuvant treatment. The combined sulphocarbolates with thymol I have found the best medicine to give by mouth.

Charles F. Morrison.

Apopka, Fla.

A FLORIDA COLONY FOR AGED DOCTORS

On page 562 of Clinical Medicine for July, we referred to an offer, made by Dr. A. T. Cuzner, of Gilmore, Florida, to donate four acres of land as a nucleus for a colony where retired physicians might spend the evening of their lives in beautiful surroundings and in the congenial association of their kindred. By a strange coincidence, Dr. A. R. Hollman, resident at La Ceiba, Spanish Honduras, makes a similar offer; which, however, is appropriate more for younger men still physically vigorous and capable of pioneer work. For the aims and purposes outlined by Doctor Cuzner, his suggestion appeals to us as eminently feasible and practical; also as very desirable. Being situated very near to Jacksonville, the place is easily reached, while the conditions of living seem to be ideal. But, we will let Doctor Cuzner speak for himself, who, in a recent letter, writes:

I have delayed writing, for lack of preparedness, the subject-matter being a sanatorium and homes for old doctors, where the latter might enjoy the last years of their lives.

I proposed to donate land for that purpose. This land is situated on the banks of the St. Johns River and about ten miles distant from the Atlantic

Ocean. When the wind is from the northeast, we can hear the roar of the ocean-billows as they strike against the shore. The land lies four miles from the ferry to Jacksonville. I enclose a few photographic views, marked to indicate from which direction they are taken.

The land at the river-bank is a high bluff, at the bottom of which is a sandy beach excellently suited for bathing. There is good fishing almost all the year around. I also enclose Professor Mitchell's data concerning the climate and temperature conditions. Now for a suggested plan.

First: I am to donate the land.

Second: A company is to be formed, to consist principally of doctors. Capital is to be obtained by subscriptions to stock, and each physician subscriber is allowed, to the extent that the plot of land donated will permit, a site for a permanent home cottage. A sanatorium is to be built where patients can be treated for moderate charges. Cottages could be erected and rented to physicians for winter residences.

Looking Northwest

Dr. A. T. Cuzner

From among those physicians who are permanently located on the grounds, a medical staff could be formed to treat such patients as occupied the sanatorium-building.

Outbuildings or offices could be erected where cooking and other necessary work could be performed. Boats could be owned privately, and also provided by the association for hire.

There is no doubt in my mind that charitable wealthy citizens of Jacksonville would endow a number of beds.

As to how funds could be raised to build, I would leave that to those who may favor the enterprise. I should like CLINICAL MEDICINE to take the matter under consideration; also *The Medical World*, *Medical Standard*, and *Medical Summary*. Doubtless, enough physicians would be found among the 150,000 subscribers of these four magazines to become partners in this enterprise.

I am about to enter upon the 78th year of my life, and I believe that I have reached this advanced age largely as a consequence of my residence for twenty-seven years in this healthy locality. I am like an old soldier and I like to fight my battles against disease over again—discussing them with others. Congenial company is what I most desire, hence, my willingness to donate this land.

A. T. CUZNER.

Gilmore, Fla.

The climatological conditions prevailing in Gilmore are practically the same as those for Jacksonville. Under normal conditions, the climate is equable, although there often are clear, cold, bracing days in winter and high midday temperatures in summer. Early spring and late autumn are the most pleasant seasons of the year, as they are characterized by moderate temperatures and a greater percentage of clear skies. While frost is experienced occasionally—and we remember having felt good and cold in semitropical Florida—real winter weather is the exception. Reversely, in the region where Doctor Cuzner's land is located, summer does not

Looking Northwest toward the Ocean

degenerate into gehenna, the highest mean temperature for any month between 1871 and 1907 never having exceeded 86 degrees.

The peculiarities of the soil, added to those of the climate, make it possible to grow there some sort of a crop all the year round, and those who like to till the earth will find ample opportunity in that respect. The proximity of the water, too, will prove powerfully attractive for many physicians, to our personal knowledge.

Looking South from the Bank

Altogether, Doctor Cuzner's scheme "likes us mighty well" and we sincerely hope that it will come to a splendid fruition. If there is room for medical journalists, even though these fellows never grow old, but just drop out and die, we hope to find a chance to go down there some day, for a vacation. We might show the "colonists" how CLINICAL MEDICINE is edited; or, at least, something about it.

Any physician interested in this plan should write directly to Doctor Cuzner, who will be glad to hear from everybody who has a suggestion to offer as to how best it can be made a success.

PHYSICIANS' BOOK PLATES

Dr. H. J. Achard, Ravenswood, Chicago, informs us that he intends to prepare a check list of book plates owned by medical men, including dentists, in the United States. Doctor Achard will be grateful for contributions from the owners of book plates, in so far as he does not already possess them; he requests that the names of the designer and of the engraver be noted on the back of any plate that is sent to him. The preparation of this check list will take a rather long time, as the work is to be done only during leisure hours but it is hoped that it can be accomplished in the course of the coming winter.

It is desired to include, as much as possibly, bookplates of medical libraries, medical colleges and other medical institutions Collecting bookplates is an interesting hobby and was sanctioned by the late Dr. Roland G. Curtin.

HOMEOPATHIC REMEDIES IN THE COLIC OF INFANCY

Not every attack of paroxysmal abdominal pain in a little child is colic. When the pain is associated with vomiting, collapse, the discharge of clear mucus and blood, and abdominal distention, I think of intussusception and search for a sausage-shaped tumor; also make a rectal examination. If in addition to the usual symptoms of colic there is marked rigidity of the abdominal muscles, especially of the right rectus, the thought is of appendicitis.

When convinced that the little patient really is suffering from colic, relief of pain is of first importance. As a routine remedy, Waugh's anodyne for infants is certainly fine. I clean out the bowel at once with a high enema of a temperature 110° F., then apply hot fomentations to the abdomen and to the feet. If there is much abdominal distention, with constipation, atropine sulphate, 1-10,000 grain every ten minutes, is effective.

If, besides the pain, there is looseness of the bowels, give tincture of chamomilla, 1-24 drop every ten minutes.

If it appears that the colic has come as the result of exposure to cold, give colocynth, 3rd homeopathic dilution.

When the pain evidently is the result of indigestion another homeopathic remedy often proves effective namely, nux vomica, 3rd dilution.

If the child is well nourished and the pain is somewhat relieved by heat and pressure, one of the tissue remedies, mag. phos., may be prescribed with confidence Dissolve 10 grains in a teacupful of hot water and give a teaspoonful every ten minutes, until relieved.

Having ministered to the most urgent need of the child, one must take time to study the basic cause of the colic. This may be too much milk at a feeding, too rich milk, too frequent feeding. Or the cause may be in

defective bowel action. Not infrequently improper diet of the mother or her failure to take sufficient open-air exercise is at the bottom of the child's suffering. While it is not within the plan of this brief communication to discuss the feeding of infants and the correction of constipation, I want to add, in closing, that some trying cases of intestinal indigestion have been greatly benefited by galactenzyme, one tablet added to each feeding.

Bellevue, O. H. K. SHUMAKER.

MORE DOUBLE TWINS

I notice that in the June issue Dr. Laura M. Plantz has submitted a photograph of a double monster. Here is one to match it, photograph of the twins preserved in alcohol being presented herewith. These were negro babies and were born February 2, 1915, the weight of the pair being sixteen pounds.

Doctor Durnham's case of double twins

They were stillborn, but I had very little trouble in making delivery. The mother was a multipara and in her seventh confinement. She made a perfect recovery.

Both of the children were male. They were attached from the neck to the navel, and had but a single cord.

W. P. DURHAM

Sasser, Ga.

STRUCK BY LIGHTNING

On the evening of the 10th of June last, three young girls were out in the field, when an electric storm came up and a vivid stroke of lightning struck one of them, Ruby 11 years of age. She was holding her hat with her right hand. The wave of lightning struck her right wrist, burning off the epidermis over an area of some two inches square, then scalding the arm up to near the shoulder, where the epidermis was burnt off for about 4 by 3 inches. Her right cheek was blistered badly. Her right side, under the arm, had the outer skin burnt off over some 5 inches square. Then her whole side for some 6 inches wide, down to the hip-bone, where it spread out over the buttock and the groin. Then it narrowed down and wound around to the back of the leg, blistering it, and tore off the shoe of her right foot, lacerating the bottom of the heel to the astragalus about the size of a silver quarter and causing a contused wound in the ball of the foot. The left leg was burnt and blistered from the knee down, and the left shoe was split in three places, while the foot and toes of the left foot were badly scalded.

The girl was unconscious at first and when she first came to was deaf. Her 12-year-old cousin Annie was shocked, but had the presence of mind to raise Ruby up and turn her over and rub her. Then it began to rain and hail, and this, together with the aid that Annie rendered, saved the child's life.

I was summoned and arrived at the bedside in about one and one-half hours. I found Ruby suffering from severe pain in her heel, very nervous, her heart very feeble, and showing symptoms of collapse; besides, of course, the conditions described above. I had her body rubbed, gave digitalin and strychnine for the heart; morphine sulphate, 1-16 grain, to relieve the nervousness; and instituted antiseptic treatment for the lacerated heel.

I am glad to be able to say that the girl has regained her hearing and is gradually recovering her strength. She has returned to her home in Roanoke. The other girl, Annie, easily recovered from the shock experienced. The third companion was unscathed. There were no trees, fence or other objects within

thirty yards of the scene of the accident, and there was no sign that any object near was struck.

J. K. Simmons.

Nace, Va.

[Fortunately these cases are rare. Doctor Simmons treated this case along the right lines and is to be congratulated on the outcome. When there is loss of consciousness, the physician who has a lungmotor or pulmotor at hand is fortunate indeed; in lieu of such an apparatus, practice artificial respiration by the usual methods. Atropine is the best stimulant of respiration, and glonoin, digitalin, and strychnine are the indicated remedies for cardiac feebleness. Heat should be applied to the extremities if they are cold and if signs of shock are present. Have other readers had experiences of this kind? We shall be glad to have their reports.—Ed.]

THE AMERICAN ASSOCIATION FOR THE STUDY OF SPONDYLOTHERAPY

We are informed that The American Association for the Study of Spondylotherapy will meet in Chicago, Illinois, on September 18 to 21. The programs are to be issued soon and can be had by writing to the secretary-treasurer, Dr. S. Edgar Bond, Richmond, Indiana.

This Association, which deals particularly with the study of reflex, clinical and physical therapeutics, is made up by men who are very much alive and who are accustomed to do things.

We are glad of the fact that they are to meet in Chicago, where we shall treat them cordially, and we hope that all the physicians attending the meeting will remember that our latchstring is always out. Take any Ravenswood car line, preferably the elevated, and come and see us.

AN ANTISEPTIC DRESSING

I have been a subscriber of Clinical Medicine for a long term of years. We have corresponded a little at times on sundry matters, but this was years ago. I have never burdened your desk with indigestible, incompatible pipe-dreams of the medical novice nor jumped on your contributors with a hatchet because they—had an impediment of speech. For these reasons I am asking you to do humanity and me a service by rushing the enclosed prescription to the front That means all belligerent nations' You are in a position to do this with greater ease and certainty than I could. So much for the prelude. Now, here is my formula for an antiseptic ointment:

Petrolatum	lb. 1
Zinc oxide	ozs. 4
Creolin (Pierson's or any other good creolin)	drs. 4

For use, spread this ointment on a cloth and apply to the wound.

Now, doctor, this matter is so simple that I am offering that as an excuse for not writing a brief article on the subject long ago. I supposed that others would blunder onto the same thing if necessity demanded it.

I have used this preparation for twenty or more years in minor surgical practice, gunshot-wounds with fracture of bone, compound fractures and the like included, and it has never failed of fulfilling in every instance the highest ideals of a perfect antiseptic dressing. It will keep indefinitely, does not separate or deteriorate in any climate.

A screwcap tin or zinc box containing one or two ounces, a 2-inch gauze roller with a small piece of heavier material, to make the plaster covering the wound of entrance and exit, will constitute an outfit for the soldier, to carry which will absolutely prevent all infection of wounds. There will be no inflammation whatever, and there will be great relief from pain. Of course, the main object is, to prevent infection, but the soldier could be instructed regarding the importance of not washing the wound and bandaging and compressing so as not to allow much blood or serum to accumulate in the tissues. Simply press out and recover at once.

It will not take you more than twenty-four hours in a city like Chicago to test this dressing. I assure you that nothing better can be desired.

I hear that they are using ampules of iodine tincture with an iodide, a wad of cotton and a bandage. The above preparation is circles of the earth ahead of it. Serums, cultures, vaccines, and antitoxins have befuddled the entire medical world. How long will it last?

James M. Callender.

Panama City, Fla.

[The "family" can supply the "clinic" needed to give Doctor Callender's antiseptic the try-out needed to demonstrate its merits—or its demerits. Suppose about a thousand of you make the necessary clinical tests.

I'm sorry that the doctor has such a poor opinion of "vaccines and antitoxins." The great war in Europe has triumphantly vindicated all the claims made for them. They are not cure-alls, but in the field of prophylactic medicine they are certainly supreme. Ever stop to consider *why the soldiers are not being decimated by typhoid fever, cholera, and typhus in this war*?—Ed.]

DOMASHING VRATCH—THE HOUSE PHYSICIAN

The House Physician—we take the liberty of suggesting "Household Physician" as coming nearer the purpose of the publication—has come to our desk in its first number, for July, 1916. This is a popular publication in the Russian language, the only popular medical publication in that language in the United States. The editors and owners of the little journal seem to be physicians, and it is intended for lay reading and lay instruction in sanitary and hygienic matters.

The review editor is informed that the articles in the first issue deal with the care of babies and with problems of food and health; there is a story or two, and several poems lend variety to the more serious discussions. We are informed by a Russian friend that the articles are very good indeed, and the evidence of our good friend, Dr. George F. Butler's picture as a frontispiece, bears out this judgment.

We wish the editor, Dr. Henry R. Krasnow, and his associates success in their undertaking to enlighten their countrymen in matters pertaining to hygiene, sanitation and domestic medicine.

LINSEED FOR HABITUAL CONSTIPATION

For the past twenty-two years, I have been looking for a good remedy for the relief of constipation, this "oldtime bugbear" of the medical profession, but until recently I have found none that was satisfactory. Not that I feel that I have given the remedy to which I am going to call attention sufficient trial to proclaim it a curcall, nevertheless, it has proved so satisfactory in a number of old chronic cases in which everything else had completely failed, that I must tell about it and ask others to try it or if any have already done so to report their experience.

The remedy is nothing else than oil-meal, or ground oil-cake, the common stock-food. I instruct my patients to have a small bowl of it standing in a handy place and to eat from five to ten teaspoonfuls during the day. The meal is eaten dry, and the amount increased or decreased, according to its effect.

I now have in mind a lady who had not had a natural defecation since she was in her teens, and she is now about 40 years old. She had been obliged to take a physic of some kind all the time, and as one ceased to act, she would change. Diet and water drinking, and all the other expediences in the usual and unusual category were tried, but to no avail. Russian mineral oil and American oil-emulsion for a time were equally as effective as the other remedies. All failed. She was then advised to try the oil-meal. For two weeks, no effect from the oil-meal was visible. Then—wonder of wonders—she began having natural bowel movements, and these have continued ever since.

Another case was that of a young woman 25 years old, whose occupation compelled her to sit much of the time. She had been habitually constipated and was discouraged, and thought she must suffer thus the rest of her life. Through another of my patrons, whom I had been able to benefit for the same trouble, she was induced to consult me. I put her on emulsion of Russian mineral oil. This benefited her for several months. Then, however, she had to submit to a surgical operation and while she was confined in bed her old difficulty returned. I thought that we could easily overcome this, when she was up again, but now the mineral oil did her no good. Then I put her on the oil-meal, and now she has regular daily movements.

I might cite several other cases, but these two will suffice to illustrate my experience so far, and I trust it will induce others to give this expedient a trial. Use the oil-meal in conjunction with the other lines of treatment that have proved themselves of some value in your hands.

F. E. Brauchi.

Coleridge, Nebr.

[Pure linseed-meal, from which the oil has not been extracted, has long been a popular remedy for constipation. One enterprising manufacturer of breakfast-food has even put on the market a preparation containing a generous proportion of crushed linseed. There is no doubt as to its efficacy; the objection to it is, that the taste of the mixture soon becomes disagreeable to many of us and at last actually disgusting to some. We speak from personal experience. At first we

liked the food, then it caused eructations, and actual dislike was the final result, so far as we personally were concerned; and we understand that others have been similarly affected.

In a later letter, Doctor Braucht acknowledges the truth of this criticism, saying that the majority of users he knows of complain of disliking this food and soon becoming tired of it. However, he thinks the objection can be overcome by devising a better combination, and instructing people to use it in relatively small doses as a medicine, rather than as a nutrient. We are glad to submit this idea for some enterprising manufacturer to develop.—Ed.]

SOME HAPPY EXPERIENCES WITH EMETINE

I wish to report my experience with two or three cases in which that very efficient alkaloid, emetine, was used with very satisfactory results to me and to my patients. Here they are:

Mrs. H., age about 58, for the past twenty-five years had been bothered more or less with blood in the urine. At times the condition was so bad that she passed pure blood, which would clot. There were occasionally intervals of a few days when no blood was noticed in the urine, but these never lasted more than three or four days. I made an examination, using a catheter, to be certain that the blood came from the bladder.

I put this woman on emetine hydrochloride, administered hypodermically, giving 1-2 grain daily for a time, then every other day, then every third day, and finally at weekly intervals, using in all twenty-eight ampules. The blood soon ceased to appear in the urine, examination of the urine proving negative. Some seven months have elapsed since the treatment was discontinued, and there has been no recurrence to date.

Mr. C. J. C., 67 years old. Suffered from trifacial neuralgia of a severe type. Touching the face on the left side caused severe pain. There were paroxysmal attacks of pain several times daily, and without opiates of some kind he was unable to eat or sleep for days at a time. The lips seemed worse than any other portion of the nerve distribution, although the supraorbital region was very painful. Patient confined to his bed most of the time. He began having trouble in December, 1915, and I saw him for the first time on June 18th.

I made a diagnosis of pyorrhea alveolaris. I began immediately to give him emetine hydrochloride, 1-2 grain daily, and sent a dentist to the house to clean up his teeth. I also gave saline laxative, sulphocarbolates, and strychnine in 1-15-grain doses every other day, and prescribed an easily digested but nutritious diet.

The pain became less from the very beginning of treatment, and I have never had to give him any medication for the relief of pain. He is now free from pain, has gained seven pounds in weight, has a good appetite, and is regaining his strength rapidly; he calls himself a cured man. I shall continue to give him weekly doses of emetine for a few weeks before discharging him absolutely.

Miss C. Has been very particular with her teeth, and has scrubbed and brushed them after each meal. She suffered from rapid heart-action after eating, had been gradually losing weight for the past four months, and was bothered with gas for several hours after meals. She was constipated, had fainting spells, vertigo at times, and seemed to lack energy or desire to do anything more than just stay at home. Examination resulted in a diagnosis of pyorrhea alveolaris.

I administered emetine hydrochloride every day for four days, then every other day for eight days and then every third day up to the present time. Her appetite is improved, her heart does not bother her any more, and the troublesome gas is a thing of the past. She is gaining in weight and strength and considers herself very much better.

These are a few of the many happy results I have been getting from emetine in the past year or so.

L. V. Dawson.

Plainview, Tex.

[The beneficial action of emetine in neuralgia is of great interest. Some of our readers may have seen in the April (1916) number of Clinical Medicine the abstract of an article published in *The Long Island Medical Journal*, contributed by Dr. Alexander C. Howe, who gave his experience with emetine used in the treatment of this condition. Doctor Howe found the emetine effective in cases of this kind in which it was difficult to find any direct connection between the preexisting pyorrhea and neuralgic pain. I hope some of our readers will follow up this pointer and let us know the results obtained. There are many of these resistant cases of neuralgia and neuritis drifting around the country and from one doctor to another,

many of them finally falling into the surgeon's hands.—Ed.]

THE TREATMENT OF ACUTE GASTRO-ENTERITIS IN CHILDREN

Acute gastroenteritis usually is caused by errors in diet, and under improper feeding may be mentioned unclean nursing-bottles and nipples, and contaminated milk and milk-modifiers. I need not dwell here upon the symptoms; what we want is, results.

In conditions of this nature, my usual procedure is, first of all to stop all foods. Then, if it is a bottle-baby, I tell the mother to procure Dennos' food, which, in my opinion, at the present time is the best milk-modifier on the market, having prescribed it for now nearly three years with astonishing success. I instruct the mother to mix one cup of fresh milk and one cup of water and allow this to come to a simmer, but not let it come to a boil. Then she is to add a pinch of salt, a teaspoonful of granulated sugar, and one teaspoonful of Dennos' food—the latter previously dissolved in water—and then to stir the mixture for five minutes. When cool, it is drained off into bottles, ready for feeding. Of course, the proportion of milk to water is changed in accordance with the baby's age.

To each feeding, depending upon the severity of the diarrhea, I have the mother add one or two of Abbott's Bulgarian bacillus tablets. (Here I may interpolate that I have been very partial to Abbott's preparation after having used a number of others. I must say that the Bulgarian-bacillus tablets as prepared by Abbott have always been found by me strong, virile cultures.) Finally I give instructions that the baby be fed from 4 to 6 ounces of this mixture every two to three hours.

Should the baby be older, so that it is also teething, I then prescribe of the Schuessler tissue remedies the calcarea phos. 3×, three tablets every two hours. If the child should vomit very much and exhibit considerable disturbance of the stomach, the giving of a mild laxative, and with an alkaline corrective, has proved beneficial. For instance, I may order the following prescription, changed according to the age of the child:

Fluid extract of leptandra.....drs. 2
Syrup of rhubarb and potassa.....drs. 4
Syrup, enough to make.....ozs. 3
Directions: One teaspoonful three times a day.

I believe that the excellent results that I obtain must be ascribed entirely to correcting the feeding, using a milk-modifier (such as I do), and counteracting intestinal fermentation by giving with each feeding a Bulgarian-bacillus tablet. The foul odor of the stools soon disappears and normal yellow movements result.

William F. Schaare.

Chicago, Ill.

GALENICALS THAT "WORK WITH CLOCK LIKE PRECISION"

Dr. W. J. Robinson, in *The Critic and Guide*, settles the argument in behalf of the galenicals in a very few words. In the October, 1915, number of his little journal, he says:

"The editor of *Physicians' Drug News* says that he would not be willing to throw away those 'galenical preparations that work with the precision of the clock" Neither should we. But we should very much like to know the names of the galenicals which work with 'the precision of the clock.' We are afraid there aren't any such."

Since it seems to appear to you that in the above, which I quote from Clinical Medicine, the last word has been said, will you kindly reprint it with the following added, and do justice to us all:

The above, from *The Critic and Guide*, seems final, but it isn't, since we can at least retaliate with castor-oil, and have as good an authority as Doctor Hare to back us.

Hare says concerning castor-oil: "Its action is so regular, it can almost be used as a timepiece."

The idea we wish to convey and that we believed would be generally understood was, that there were galenicals that could be depended upon to do certain things, minus great variation in time, as well as to do them accurately; which latter quality also pertains to the precision of the clock, and to date we have no reason for changing our mind.

A. P. Reed.

Boston, Mass.

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[Doctor Reed is too good a man for us to quarrel with, and, really, we agree with all he has to say about castor-oil. We'll go even further, and admit there are valuable galenical preparations. Our difference with the doctor seems to depend upon the meaning of the word "galenicals," so we will quote the definitions appearing in "Stedman's Medical Dictionary": "1. Herbs and other vegetable drugs, as distinguished from the mineral or chemical remedies. 2. Crude drugs and the tinctures, decoctions and other preparations made from them, as distinguished from the alkaloids and other active princi-

ples. 3. Remedies prepared according to an official formula."—Ed.]

A COUNTRY DOCTOR'S JOY-RIDE

I had the good fortune to be a resident, for some fifteen years, of the town in central Kansas which was the boyhood home of William Allen White. During most of my residence there, the place was the home of the veteran editor Thomas Benton Murdock, uncle of the redheaded ex-Congressman Victor Murdock, who was known locally as "Our Vic." That town, too, was supposed to be the scene which Bill Allen White had in mind when he wrote his story titled "A Certain Rich Man." Indeed, many of the residents, especially the early settlers, claimed ability to identify the different characters in the book; and I, myself, had an intimate acquaintance and friendship with the harnessmaker, still a resident there, from whom, 'tis said, White patterned that character for his story.

The place is an average county-seat town, with more, perhaps, than the average culture and certainly more than the average wealth and "aristocracy." It is surrounded by a good farming and grazing country, and when I first located there the doctor thought nothing of driving fifteen, twenty or thirty miles to visit a patient. The country now is more thickly settled, new towns have been located, other doctors have come, and the drives are less extended.

In the twenty-five years that I have been a physician, I have had many experiences that seemed to me unique and often very interesting; and, in the hope that they may prove at least readable to others, I am going to jot some of them down for their attention.

One cool, clear, starlight Tuesday night in March, just as I was yawning and casting a wistful eye toward the bedroom, the telephone rang and I was called to visit a young lady who lived some seventeen miles in the country to the north-west, and was requested to bring with me Dr. X. The message said that the young lady had been very sick since Sunday with brain trouble; had had two doctors from nearer town, who had failed to relieve her, and they wanted reinforcement.

Accordingly, I hooked Bird to the buggy and, with Dr. X—, a rather diminutive gentleman physically but of normal stature mentally, we started on our seventeen-mile joy-ride, that ended as joy-rides often do. But I must not anticipate. Bird was a large, rawboned, rangy, thoroughbred sorrel mare, of great endurance, capable of jogging off eight miles an hour without being urged, and ten or better under suasion. It was my custom to let her take her own gait for the first half-dozen miles, till she got her second wind, and then to encourage her to do better the rest of the way. In this way, we arrived at the home of our patient in excellent time, expecting to meet there Dr. Y—, her regular attendant. However, he was not there and, as we declined to see the patient except in consultation with him, a messenger was hurriedly dispatched to his home, eight miles away. (He had no telephone.) Then Dr. X— and I sat down to get a little warmth from the kitchen-stove, the only source of heat. In the adjoining room, we could hear the patient moaning, groaning, gagging, and apparently desperately sick.

After a long and tedious wait, with thoughts of a cozy bed at home tantalizingly before our minds, Dr. Y— arrived. We repaired with him to the sick-room, whereupon I confirmed the diagnosis I had already arrived at in my own mind. I found her pulse and pupils normal, tongue uncoated, breathing regular, lips and cheeks a healthy pink, no exacerbation of temperature, and only a history of three days' pain in the head, nausea, and retching. Dr. X— made a hasty urinary test. This turned out negative.

We now adjourned to the other room, and Drs. X— and Y— began to discuss a line of treatment in the presence of her father, brothers, and another young man, a stranger to me.

"Excuse me, gentlemen," said I, "I should prefer to discuss this case privately," and, turning to the father, I requested that we be shown to a private room. When we were alone, I said to my consultants, who both were my juniors: "I think we had better settle definitely upon the diagnosis before discussing the treatment." Turning to Dr. Y—I said, "What is your diagnosis?" He was taken somewhat aback by my abrupt query, stammered and blushed, then said: "Well, to be honest, I am puzzled. She seems to have some obscure brain trouble that gives her great pain in her head and acts reflexly on her stomach, but what it is I have not been able to answer satisfactorily."

Turning now to Dr. X— I asked him: "And what is your diagnosis, doctor? Do you still think she has kidney trouble?" He replied, "Yes, I do. Of course, the test showed nothing; but, then, we could not make a really thorough test here."

Then I assumed my most judicial air and spoke up: "Well, boys, I shall have to dis-

agree with both of you. There is nothing in her pulse, pupils, tongue; there is absence of fever and other symptoms to substantiate either of your diagnoses."

"Well, then, what is your idea? What is your diagnosis?"

Then I proceeded to explode a bombshell under them by saying: "It is plain to my mind that there isn't a thing the matter with this woman. It is hysterics, pure and simple. She is putting it all on and doing it for a purpose. Who is that young fellow out there with her father and brothers? Is he her sweetheart?" They could not tell, although giving me his name. "Well," said I, "I'll bet a plugged penny against the hole in a doughnut that he is, and, more, they have had a lover's quarrel and she is trying to arouse his sympathy. I have seen this thing too often to be deceived in this case." Then I asked Dr. Y—, "Has he seen her since she took sick?" He replied, "No, I have not permitted anyone outside of her own family to see her."

"Now look here," said I, "you let that fellow see the girl, and I'll guarantee he will do her more good in fifteen minutes than you have done in three days or than we all three can do in three weeks with a houseful of dope. Now let's go home." They readily accepted my diagnosis, and also my remedy. So, after assuring the family that Dr. Y— was doing all for her that any doctor could do, we took our departure.

By this time, the sky had become overcast, the temperature had taken a drop, and a stiff northwest wind was blowing, which fortunately was at our backs. It was just before dawn and intensely dark. We took a different road returning, and, as it was so dark, we could not see the road and had to trust to Bird's instinct to take us home. The sequel showed the mare's instinct better than our wisdom.

For miles we angled across big pastures paralleling the railroad-track, where we could see no road at all. At last we came to a point where the road had been changed since either of us had gone that way, and the wagon-road was made to cross the railroad instead of continuing down the lefthand side of the track. The mare started to cross, and if we had let her alone she would have taken us home all right. But I pulled her back and started her on down parallel with the railroad. But now I found I had a barbed-wire fence on my left. Bird was unwilling to go, soldiering and shying, and at last shied off from a pile of rocks. The wheel struck the wire with a singing, whirring sound not unlike a rattlesnake's, striking fire with a shower of sparks that frightened the already spirited, nervous mare, caused her to give a lunge that landed the front wheel on top of a fence-post, hung the buggy on the fence, broke her harness, and she galloped away down the railroad while Dr. X— and I lay spilled in a heap on the ground. Fortunately for me, I missed the rocks, and most fortunately for him he fell atop, for my gross weight at that time in ordinary clothes was two hundred and forty pounds.

We were about four miles from home, and, taking our medicine-cases in our hands, we started to finish our joy-ride on foot. At the first cattle-guard, we found poor Bird, humped up and shivering, a great patch of skin torn from her shoulder. I kicked a few boards off the fence and got her through, thus saving us a detour of a couple of miles. Two miles out from town we came to a farmhouse just as the farmer was coming out of the barn with his lantern. We left Bird with him, after dressing her wound, borrowed his horse and buggy and thus saved ourselves the rest of the tramp, reaching home just at daylight. I sent a man after the buggy, rested a few hours, and then was away on a thirty-mile jaunt. But, as Kipling says, "That is another story."

To return to our patient. When Dr. Y— visited the young woman the next day, or rather the same day in the afternoon, he found her "clothed and in her right mind," sitting up and having her hair combed for the first time since the Sunday before.

A few days later, the young man in the case came to town, came to the office and inquired what was the matter with her. We answered him in Yankee fashion by asking, "Why were you there and why are you interested in knowing?"

He said, "We have been keeping company for some time and last Thursday night I had an appointment with her to go to a dance. I was sick and could not go, and I could not get word to her. She went with her brother and sisters, and some of my neighbor girls teased her by telling her I had gone to call on another girl. On Sunday she was at church and I went around to her to explain, but she whirled and left me and would not speak to me. That afternoon she took sick and I did not see her to talk to her until after you doctors left the other morning. Then I told her how it all happened."

There was my diagnosis confirmed, and thus do we see the folly and shortsightedness of

hysterical women who try to make some man "come across" by allowing themselves to let go of their nerve. (By the way, this young lady did not land him.) I have often seen similar cases in my years of practice. I have never seen what I could call hysterics in men, yet, they have them, just as well as do women; and when it comes to pain, men are more babyish than are the women folk.

W. O. Bennett.

Pittsburg, Kan.

A CASE OF HYSTERIA

In the early years of my professional career, which were spent in a rural district ten miles from the nearest railroad, I had one unique and interesting experience that I am going to relate for the benefit of any colleague who may be subject to occasional spells of "the blues."

It was in the later weeks of a dry autumn that a freshly married farmer of the common, uneducated, very industrious and very unwealthy class appeared, riding a little frisky mule, at my front gate promptly every night at 2 o'clock, lustily yelling, "Hello doc, hello doc," until I acquired the habit of awaking at the hour of 2 every night, with that familiar "hello" in my ears, whether it was called or not. But, as I remember, the fellow called, as I have said, at the same hour night after night for fully two weeks, and always with the same tale of wo of "My wife's suffer'n terribly in that side agin."

Always the same man, the same mule, the same side, the same road—the latter through the woods most of the way and the frost often was glistening in the moonlight upon the very top twigs of the trees. When we arrived, we would find every time the same crowd, this consisting of the wife's father, mother, two sisters, and usually her only brother, all sitting around the open fire or making teas and poultices in the same way. Her complaint was the same every time. This family, by the way, was related to a doctor who lived quite a distance away, and he wanted to shift this practice onto me, as I found out later. And I did not blame him, either. The patient wanted him all the time.

Well, I had given the woman every remedy mentioned in therapeutics, and then some, for this, to me then, very peculiar ailment. I had given her opiates by hypo and by mouth, all the anodynes and sedatives, from acetanilid and bromides to veratrum and lobelia; f had exhausted hydro-, pyro-, and in a small way electrotherapy; in fact, had done everything that I knew. Besides, they had secretly employed an old conjurer, as I afterward learned. But all, all without avail. The "misery" remained "unbearable." At times the woman would have the worst kind of convulsion: head and heels drawing almost together, as they said. In fact, I once saw one of her attacks of spasm, and this, I was told, was "nothing like some that she had had," although it was frightful to me.

There was one peculiarity that I noticed in her convulsions, namely, she was always conscious of what was going on about her. She would watch my every action and expression, but I failed to grasp the full significance of even that, so bewildered had I become in the excitement and anxiety of the whole household. I had reached the limit of my ability, and, upon leaving the place at about daybreak one morning, racking my brain for some rational mode of further procedure, I thought of my old preceptor, who lived about ten miles further in the country. So, I directed my horse thence, in search of light upon this unparalleled case.

Arriving at the village-home of my old friend and teacher, and after a brief general conversation, I arrived at the "magnum opus" of my errand. This my old friend seemed to have surmised, for he was smiling a treacherous way, as was his custom when contemplating some mischievous prank. However, I proceeded to relate the case to him fully and in detail, while he listened attentively, never asking a question. When I had finished with my "terrible" case, the old doctor laughed and laughed until big tears ran down his weather-beaten cheeks. I, on my part, though, failed to see the funny part of so serious a matter and was puzzled. At last he calmed down and seemed to realize my seriousness, but still would burst forth in an explosion of laughter every once in awhile, until I became somewhat nettled and asked him if he had any advice to give me, or not. The truth is, I had reached the point where I did not care much whether he did or didn't; I was growing emphatically indifferent as to his advice in the matter, anyway.

"Well," he said at last, "you have a tough case, my boy; but it is good for you—'twill teach you lots. And right now I'm going to tell you something that you will not want to believe, but it is the only way out for you, and it'll do the work."

Of course, I was all attention, but he kept on spurting out that little laugh every now and then, which at the time seemed to me rather silly. He continued: "I see, I see; yes,

I see. And they want Dr. B, eh? Well, he's their kinsman, is he not?"

"Well, yes," I answered, "but what of it?"

"Oh, yes, yes," he said. "Well, now (affectionately) Lewis, here's the trick. You go back, take with you this—this little vial," and he handed me a dram-vial of fluid extract of valerian. "This valerian, you know, is nothing much but a loud stinker and strong taster. Take this, go directly to those people, tell them you came to see me, and that we decided on this very 'powerful' drug as the last resort for her. Make them think, by every means you can, that it is something extraordinarily dangerous, but impress upon them that we both had decided to give it. Prepare a dose, give it to the woman yourself, and stay attentively by until it works, which will not be long. Then leave them just the least bit of it, with very cautious directions about giving it. Then go home and get the good rest that you need. You'll get it—see?"

Upon this, I started upon my journey back, much wiser already than I had been. Upon reaching the home of my patient, I found the whole crowd assembled there. It was just growing dark, but they were all there preparing for the usual night's ordeal, laying in plenty of firewood, pineknots, and so on, and all were going about with a saddened, almost hopeless expression. I dismounted, went directly into the house, told them at once where I had been, and portentiously explained what we finally had decided upon. I took that little vial of valerian very carefully from my pocket, unwrapped it more cautiously, holding it well away from my face, asked for a teaspoon and some water, and enlarged all the time upon the extreme powerfulness of this drug, its great danger if not administered precisely right, and that it was given only in a case of this particular kind.

Now taking the teaspoon, I dropped one drop into the spoon, filled the latter with water, mixed the medicine thoroughly, then poured half of it into the ashes (not into the fire, "for it is explosive"), and directed the woman to take a sip of water first, then swallow the half-drop dose. She and the whole family were watching every procedure with wonder-waiting eyes. I then asked for the smallest vial to be found, and, to my surprise, they found a half-dram vial. This I had them clean—"perfectly," of course—and into it I dropped some of the wonderful (?) remedy. I gave directions to keep it well out of the reach of children, cats, dogs, and chickens; always in a dark, cool place, well away from fire and where it might not be knocked off, for, as said, it was a "dangerous explosive." That, if they should happen to drop more than one drop, they must empty the spoon, wash it, and try again; and under no circumstances, ever to give more than one half of a drop, and only three doses daily, and then for only three successive days. They must be very careful not to give one drop more or less, but give only as told, whatever happened, for that was the prescribed course.

Within less than three minutes, the woman spoke to me in a tremulous voice, saying, "Doctor, I feel that medicine plum into the ends of my very toes." And she did, no doubt, for it relieved her as completely as anything I ever saw act in my life. And, best of all, I never had to make another night ride to that home after that little precious dram-vial of fluidextractum valerianæ found its way into my armamentarium. And you can bet that I've kept that wonder-worker in my case ever since for just such cases as this one.

Lewis W. Spradling.

Athens, Tenn.

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[Read the preceding article on hysteria—then read this one. Hysteria is a disease-animal of variegated hue, changing its colors to fool the too-trusting and ever-sympathetic doctor. It fooled me once—and I never think of that case without a quiet chuckle.—Ed.]

PROPHYLACTICS VERSUS THERAPEUTICS

Herbert Spencer, justly termed "the world's first really great systematic thinker," uttered a wise maxim when he said: "People never try the right way to right a wrong, until they have tried the wrong way." Many try every imaginable wrong way, and then die without having found the right way. Very much, of course, depends on the stage at which they have arrived in their mental evolution. But it is a wise provision of nature that it is only through many trials resulting in failures, so called, as well as successes that we finally succeed in attaining to the stature of the perfect man. Every failure, then, is a success, when viewed from the standpoint of the philosophy of evolution. In the last analysis, there are no failures. Every time we fall down we fall up.

But what has this to do with my subject? Much, very much, as we shall see. As man does not live by bread alone, so he should not

live for money alone. If he tries to, he soon finds that the love of it is "the root of all evil," or "a root of many evils," as the revised version of the Bible has it. In other words, there is a right way, as well as a wrong way, to live, and the more completely we live in harmony with nature's all-wise laws, the greater will be our satisfaction, and the more rapid our progress through the eternities. The greater also will be our reward. It seems to me that the doctor, above all others, should not only profit by a knowledge of such truths as these, but through the relation he occupies toward society, the obligation resting on him is correspondingly great to pass them on to his clientele.

In my practice, I have time and again been astonished to find that few, if any, instructions were given by my fellow practitioners to their patients concerning the avoidance of the most common causes of disease. It is well known to all who are broadly educated that fully nine-tenths of the diseases that flesh is said to be heir to are due to causes that are easily avoidable.

If doctors know this, why do they not tell their patients how to live right physiologically and thus avoid the inevitable results of the violation of nature's laws? Is not "an ounce of prevention better than a pound of cure"? People do not want to get sick. Disease is like war. Few, except the munitions manufacturers and ambitious war lords, want war. But we have it periodically, because we ignorantly take the road that leads to it. I think doctors above all others should live above the mercenary plane.

Doctors should be teachers as well as dispensers of pills and powders. Prophylactics should displace therapeutics as rapidly as possible. It is far better, safer, more economical, and immeasurably wiser to keep well than to go on blindly, get sick, suffer, be a burden and an expense to relatives or society and often die prematurely.

To illustrate: Before me lies a treatise on gout and rheumatism. The author says: "The most eminent authorities of the day concur with Alexander Haig in the opinion that the acting cause of these affections is an excess of urates in the economy." Very true. I found this out years ago, since which time I have avoided the causes that produce this "excess of urates," and, consequently, have no more rheumatism. Every patient whom I can get to follow my instructions, as to diet especially, enjoys perfect immunity from this dread disease. Physical ailments do not come on us through a "mysterious dispensation of providence," as once was thought. It therefore gives me far greater satisfaction to tell people how to keep well and enjoy the life that nature intended for us than to prescribe the ordinary remedies and allow them to go on in their ignorance unwarned.

In China, it is said, the doctor is paid to instruct the people as to right living and to try to keep them well. But, then, they are "heathen," and don't know any better; and we are such a wise "Christian nation," you know. It is to the doctor's economic and financial interest here to keep the dear people in ignorance of these matters. How badly we need missionaries from the Orient! What will posterity think of us as it learns these facts? Till then, the people of our country must pay out three billion dollars a year and more, in an effort to get cured, and almost nothing to prevent disease.

Dr. G. M. Gould, a good authority, says that fully one-third of this could be easily prevented. How shortsighted, how unreasonable to continue to treat effects rather than causes. With a sane economic organization of society, protecting everyone in his right to work and to the full product of his effort, securing good and equal educational opportunities to all alike, fully nine-tenths of our diseases and most of our crimes and other abnormal conditions could be prevented. Then life would be worth living to all. Suicides, homicides, insanity, idiocy, our barbarous penal system, war, and other relics of savagery would vanish like mists before the rising sun.

Our educational system should include the whole body—physical culture—as well as the mind. It should aim at training for complete living. Eugenics should be taught in all our high schools and colleges. What a crime it is to train our young men in cadet clubs for war instead of peace. All alike should be trained as home-builders, home-protectors, and home-conservers. A nation of home-owners is invincible, but a homeless nation is ready for anarchy.

We must close with one more quotation from the world's greatest synthetic philosopher, Herbert Spencer. He says ("Data of Ethics," p. 83):

"For the production of the highest type of man can go on only *pari passu* with the production of the highest type of society—complete life in a complete society is but another name for complete equilibrium between the coordinated activities of each social unit and those of the aggregate of units."

Such a state of society is exactly what Socialism proposes. Had this condition existed in Europe, there would have been no war over there now. But the people evidently are not yet ready for it. May heaven hasten the day when our noble profession will respond to the call, already coming from millions of sad hearts, to teach the people how to avoid the causes that logically produce the direful results of which we all are so painfully cognizant.

S. J. Brownson.

Fort Worth, Texas.

IS THIS A MEDICINAL CURE FOR CANCER?

Among the ancients, there were certain swift runners whose mission it was to take a lighted torch and, speeding with windlike momentum, light up a signal-fire at a given elevated spot; then another runner would grasp the torch and speed on, and do like the one before him. And so on and on, from hilltop to hilltop. By this means was intelligence of a certain kind conveyed to the populace. It is my desire to place in the hand of some swift runner a lighted torch by means of which valuable intelligence may be disseminated among us of the medical craft.

Cancer has baffled treatment for so long that the watchers have grown weary looking for a cure or a therapeutic modification of this disease. What I have to say upon this subject is the result of my personal observation during many years.

A woman about 50 years of age abruptly entered my office one summer-day and, seating herself on the side of my operating-chair and throwing back the front of her dress, asked in broken English, "What is this? All the doctors in the town (and here she named all of them) say it is cancer."

The breast, I found, was enormous in size, more than four times normal. The nipple was entirely retracted and completely surrounded by wartlike growths. The axillary glands were greatly swollen, and knobby and knotty to the feel. Below the nipple about two inches there was an open sore, large enough to hide a hen's egg, and from this there was oozing a slimy discharge. The blood-vessels on the side and around the breast were like the snakey locks of a Medusa head.

I filled that sore with acetanilid (in impalpable powder), and then gave her enough for many dressings. I also gave her in one vial 5 drops of mother tincture of phytolacca, and in another vial I gave her 5 drops of mother tincture of pulsatilla (both of Boericke & Tafel make). I then directed her to put the contents of each bottle in a separate glassful of water. One vial I marked No. 1, this to be taken before meals. The other, marked No. 2, she was to take after meals. The dose of each one teaspoonful scooped out of the respective tumbler. This prescription was repeated from time to time as the medicines were used up. This woman was still living and in fair health fifteen years later.

Some time following the first coming of the preceding patient, another German woman came to me and said, "I know what you have done for her"—naming the patient above referred to. "I want you to look at my breast. I can't wash, because the washboard hurts me; I can't go to church, for my corset hurts me. I feel a hard lump in the breast; there are enlarged axillary glands; I feel sharp, needlelike pains."

I gave her the same remedies mentioned above. After a few months, this woman ceased to come, and I lost track of her However, the following season she and her daughter came to me and said: "Doctor, I have come for more medicine. My breast got so much better that I thought it would all go away and I should not need to be at so much expense." (I had charged her for the prescription fifty cents.) "But my cousin was here. He is, as you know, a great surgeon in California. He went home today after visiting here for several weeks. He was angry that I did not tell him before, for he would have cut it out and not charged me a cent. His railroad-tickets were stamped, so, he went away today. But he told my husband that he should take me to Chicago and have that lump cut out at once, for it was a bad cancer and would kill me. Then, just as soon as he was gone, I came to you. You helped me before, and I think you can again."

Then the daughter spoke up and said: "I will see that mother takes the medicine just as you direct. No matter how long it takes or what it costs."

I found the breast very sore and tender to the touch, with sharp pains. The glands were enlarged. In fact, it was a typical case. I repeated the prescription, and in two years it had removed all appreciable lesions and the patient was free from pain and discomfort. Twelve years later, this woman was taken ill away from home. The trouble was of an

intestinal nature. Upon her return, she was emaciated and suffered great pain. When I looked over her case, I thought it might possibly be a metastasis to the peritoneum or glands of the bowels, or that perchance her former trouble had not been entirely eradicated.

Acting on this supposition, I gave her, as soon as the conditions permitted, the phytolacca and pulsatilla prescriptions, and she gradually returned to her usual health.

Ten years later, I was called to the same patient, she then suffering from violent sciatica, as a complication of intestinal and other disorders. She confessed to me later, when the case assumed very grave aspects, that the old breast trouble had bothered her more or less for a year, but she had said nothing about it, as she did not wish to be complaining all the time. I told her that we had lost a whole year which we might never recover. As I was then taken sick myself, I could not treat her, and they changed doctors several times; one of whom, an Osteopath, she said, nearly killed her. Later, she was taken to Ann Arbor, when a rapidly growing uterine cancer was found, and of this she soon died.

A woman so wan and weak that she could hardly stand alone came slowly up the walk to my office-door, leaning on her sister's arm. She was in the last stages of cancer of the breast. Several of her relatives had died of cancer. She said to me: "We have seen the women you have helped, and I hope you can help me, too; however, I will not consent to an operation or the use of plasters." It seemed as though two or three weeks at most would wind up her earthly career, even under the very slow progress of cancer. I gave her the usual remedies and sent her away—but not at all rejoicing.

However, the woman refused to die; in fact, she began to mend, and she kept on improving. Now let me say that she was a woman of sixty-five years, was almost a hunchback (from a badly contorted spine), a great eater, and subject to many ailments—so, you can see what the prospects were. For all that, she slowly but surely mended, and in three months was able to walk out alone on the street; the glandular enlargements under the arm had vanished, and only the large lump persisted.

Now outside hindrances began to interfere; a bowel trouble was brought on by excessive feasting, and later she contracted bronchopneumonia from exposure. These made the use of my treatment impossible. So, after many weeks, we had lost ground because of these conditions.

One day she was taking a bath, her husband assisting. He was an excellent nurse and a strong man, but subject to neuralgic attacks. Just as he was lifting her out of the tub, he was taken with a crick in his back, causing him to drop his wife and falling on top of her. Her cancerous breast caught on the edge of the bathtub under the weight, momentum and impact of the cruel blow. I was summoned, and I begged to be allowed to amputate at once. But, no. Two things had been at work—her fear of the knife, and the tongue of a meddlesome neighbor. The latter had told her of many wonderful cures made by the balmy oils of Doctor Blye, of Indianapolis. Consequently, I was dismissed. Not long afterward, the vital statistics reported one more death from cancer.

One more case and I am done.

Visiting one day at the home of a minister of the gospel, I was asked by his wife to come into the next room. This I did, and then immediately was asked to come into the following room. I noticed that, as I passed through a door, it was securely locked behind. This was repeated no less than four times, when at last we arrived in a bedroom in the rear of the house, with curtain tightly drawn.

This last door being also locked, the lady turned to me and said: "Doctor, what I am about to say to you I do not wish either my husband or my sons to know. Several years ago, my sister died of a cancer of the breast. It was my duty to care for her, and the memory of those fearful days and nights of suffering are with me yet like a frightful nightmare. For several months now, I find that I am following in my sister's footsteps. Look at this."

The lady uncovered her breast, and I beheld a cancer. Then, passing my hand under her arm, I felt the telltale enlargements. She said: "Neither my husband nor my sons know anything of this. If you can do nothing for me, say nothing about it. Only at the very last will I tell them."

It is said, there is no love like a woman's. Can you equal this example of love and heroism?

I gave the usual treatment, and at the end of the year she came joyfully to me and said, "It is all gone, the cancer." That was many years ago, and she is yet alive.

Now ye fast runners, here is the torch, hold it high, carry it far. I know not the medicinal action of these remedies, when

given in such dilution as to be able to feed the hungry cells, as milk feeds babies.

I am an old man—yours is the work.

C. S. Cope.

Detroit, Mich.

[I had the pleasure of meeting Doctor Cope at the meeting of the American Medical Association, in Detroit, last month, and I am more than ever convinced of his ability and sincerity. I have known him by correspondence for years, and respect his character and brain. If it were not for these facts I should hesitate to publish this article—for cancer is not a disease which permits of delays or of experiments. As a rule, the hope—and usually the only hope—lies in immediate surgical intervention. I wish to emphasize this, for it is possible that some few of our readers may be tempted to temporize, and to pin their faith to drugs at a time when the use of the knife is imperative.

I have given you the warning, but not for the purpose of discouraging the use of the remedies suggested by Doctor Cope. I hope they will be tried, and thoroughly, by many men, but without neglect of any indicated procedure, surgical or otherwise. Personally, of course, my leaning is toward the active principles, and I should use anemonin instead of pulsatilla, and a good concentration of the phytolacca. That, however, is a matter for everyone to decide for himself. If any of our readers give these remedies a trial I hope they will tell us what results they obtain.—Ed.]

UNLICENSED MIDWIVES

In the March issue of Clinical Medicine, page 272, I notice an article entitled, "Keep Friends With the Midwife." Now, that is exactly the proper thing to do, and the thing I always have done and always shall do, providing that these midwives are licensed. If they are not licensed by the state, then they have no more right to practice midwifery than I should have to practice medicine without a license.

Recently I made inquiry of our board of health, relative to certain women who were doing quite a business as midwives, at $5.00 per case. The board informed me that the parties I referred to had no license and were practicing midwifery in violation of law. Yet, everybody for miles around supposed that these women did have state licenses.

Better investigate a little; maybe there are unlicensed women doing work that you yourself should be doing. I asked several of my brother physicians whether such and such a woman had a license to practice midwifery, and they answered, "Yes, sure she has; she's been attending women for years." As a result of my investigation and further action, a warning-letter was sent by the board to the parties in question, and they have now quit practicing midwifery. The law is weak in the provision that anyone of the family may report births in case no physician is called. Unlicensed people should not be allowed to do that.

"Kirk."

——, Illinois.

A CASE OF BLACKWATER-FEVER IN THE JUNGLE

The towns of Tela and La Ceiba are hotbeds for hematuria, or hemoglobinuria, a disease of malarial origin. It is the cause of death of most of the white men that die in these regions.

Two months ago, I was in Tela, to where I went to visit my wife's grave. A young fellow, an electrician, asked permission to accompany me up to this country, of which he had heard so much, and I felt no inconvenience in taking him along. Waiting for a Carib craft to take us up the coast, we lost several days in Truxilla, and when we arrived at Brewer's Lagoon my friend complained of being sick. He confessed that he had felt indisposed for several weeks, but that the doctors had taken scant notice of his condition. I soon was able to diagnose his disease as hemoglobinuria—and I had a pretty hard case on hand, at that.

Fever was intermittent, but without the usual chill. I loaded the man in an open boat and kept right on up the Patuco River, as I wanted to get him away from the mosquitos of the swamps. Our food consisted in whatever I could get; sometimes, when passing an Indian village, it might be eggs and chickens, sometimes an iguana, or a deer or a pheasant. The sick man learned to suck raw eggs, of which during his ensuing convalescence he devoured a great lot.

My medication consisted in calomel, in broken doses, and bilein, followed by epsom salt. Quinine I gave in rather stiff doses—1-2 Gram once a day. I also gave copper sulphocarbolate, 1 grain divided into four doses, during the day. In addition, arbutin and lithium benzoate, 1 grain of each every two hours; arsenite of strychnine, 2 milli-

grams; the Abbott anemia and chlorosis granule, four times a day.

It rained almost every day, and when I arrived above the mosquito line I pitched camp on a small island having an extended sandy beach.

My friend grew very weak, but, after fifteen days, we were able to start on our return trip down the river, and, with the above as the only treatment, my patient made—well, I won't say an altogether "uneventful" recovery, for, he had several relapses; still, he got over it in the end. I kept him, though, for a long time on the following solution of epsom salt: 2 ounces of magnesium sulphate and 6 grains of copper phenolsulphonate dissolved in 10 ounces of water. Of this, he took a spoonful three times a day.

Several times I allowed him to drink coconut-water (the socalled milk), for its diuretic effect; but I soon discovered that it brought on a recrudescence of the symptoms, so, I stopped it.

A. R. Hollman.

Brewer's Lagoon, Guatemala.

OBSTETRICAL FORCEPS

In regard to Doctor Ewing's suggestions for an obstetric forceps, printed in May Clinical Medicine (p. 445), I desire to offer my own idea of axis-traction. I hold that traction should be made in a line perpendicular from the point of resistance; in other words, the traction-force should be in a direct line from the point of resistance. For many reasons, but especially in order to preserve the sense of feel or touch, the axis-traction addition to the forceps should be as light as possible.

In my opinion, the Tarnier axis-traction forceps is too clumsy and has too much mechanism connecting the traction-force with the point of resistance; and this same objection applies to the forceps illustrated on page 445 of the article. The one shown on page 446 (No. 3), it seems to me, would not do at all, because the traction-force would pull "against the grain," as it were, that is, against the curve, and would not give the direct action of the humble little axis-traction hooks, in which the sense of feel and touch is maintained so well.

I have made an improvement, I think, on my axis-traction rods. When I bought them, the hook that went on the forceps was shaped with the point running straight in at right angle. This occasionally scratched or cut the baby's scalp, also it would slip off the forceps too easily. So, I had the point turned downward at about 45 degrees, so that it fits against the shank of the forceps.

Another advantage in having the point turned downward is, that sometimes it is difficult to slip the hooks on the forceps after the latter are introduced rather high up, so that, if the tissues are swollen it may occasionally require two or three attempts to attach them. It saves time and unnecessary manipulation of the parts—always very important—that the hooks which I have can be placed on the blade of the forceps before it is introduced, placing the length of the hook along and against the forceps, holding both together lightly with the hand.

The hooks and handle which I bought were only long enough for my short forceps; so, I had a pair of hooks made with longer legs for my long forceps, and I like them very much.

C. W. Hunt.

Brevard, N. C.

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[In the years gone by, when the present writer did much obstetric work, he had a pair of axis-traction rods, having bent hooks as they are described by Doctor Hunt, and no good reason appears to exist why these hooks should not always be bent in that manner. For practical purposes, however, the axis-traction rods were always left very carefully in the satchel; for, this writer found it quite feasible to do something like Pajot's maneuver as described by DeLee ("Principles and Practice of Obstetrics," 1913, pp. 982 and 984), except that the index- and the second-finger of the right hand made pressure downward on the forceps higher up than the lock. The sense of feel or touch, insisted upon with so much justice by Doctor Hunt, is a very important guide in the application of axis-traction, whether it be done with or without special appliances. It must be acquired and developed with great care by every obstetrician.—Ed.]

ACTION OF SUGAR AS A WOUND ANTISEPTIC

The destructive action of sugar upon anaerobic bacteria in wounds does not rest upon osmotic processes or the production of fermentation-acids, but, rather, K. Spiro asserts (*Muench. Med. Woch.*, 1915, p. 497), the sugar gives rise to a different bacterial flora, which tends to displace with a harmless one the malefic pathogenic ones.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, *A. M., M. D.*

A LITTLE philosophy these hot days possibly may be quite as acceptable as a dissertation on some disease that wouldn't interest anyone but a doctor. What I am about to write may interest your patient even more than it will you. Let your patients read what I shall write for this issue and see how they like it.

Not infrequently in my "health-talks" to my patients at Mudlavia I talk along these lines, and it always makes a hit.

Assurance bordering on impudence seems to be the leading trait of many successful men. The time seems to have passed when the average man can succeed by modest and unassuming methods. All the nice things that have been said in favor of modesty fail to stand the test when brought into the pull and haul of everyday life. There will be found now and then a modest but an intensely earnest man who makes a great success in life; but such men are the exception.

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If you are going to make yourself known, it is no longer the thing to pass out a card quietly. You must advance with a trumpet and blow a brazen blast loud enough to shake the stars. To stand with lifted hat and solicit a hearing, savors of mendicandy and a humble spirit.

Bold assurance, while it disgusts some of us, will win nine times out of ten. The modest and diffident man may starve in a garret. There is but little chance for him in these strenuous days of the world's existence.

There seems to be nothing else nowadays so conducive to success as "cheek"; and the more cheekiness, the better. Modesty may be a good and a beautiful thing; but experience seems to prove that, if we wait for our turn in this world, our turn never will come.

But, oh! that we might pass out of this age of sordid, self-seeking, and impudent assertiveness into something larger, and sweeter, and finer!

Give us less yeast in our bread, and more substance; fill our cups with wine rather than froth; and, for sweet pity's sake, hang up the trombone and the bass-drum, and let "silence, like a poultice, come to heal the blows of sound."

The food-question is as vital as the whisky-question. It begins with the first day of our life and links itself with the welfare of every human being every day of his life. The wise solution of the food-question will contribute immensely toward man's health and happiness. Thousands of people suffer from starvation.

Many people nowadays are trying to live on vegetables alone or on "prepared" foods. People who limit their food to such stuff gradually starve to death. These things furnish food for fat and fuel for the lungs; but they fail to feed the brain, nerves, bones, and muscles, and, so, these important parts starve. And not only does the brain become uncertain in its action, but headache and neuralgia are common, the muscles become thin and weak, and, back of all this, the blood becomes so imperfect and poor that anemia and other taints are developed. Man should eat both vegetables and meat—but not too much at a time.

Give your stomach exercise. It will become lazy and weak if you live on "predigested" or "prepared" foods exclusively.

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Praising others for what you would like to have praised in yourself is the very sublimity of blowing your own horn. Praise between man and man is so rare that we neither know how to bestow it nor how to receive it. The husbands who never have a word of praise for their wives, the wives who never have a thought of praising their husbands, and the parents who only find fault with their children are, I fear, in the majority.

Praise, but don't flatter. The difference between praise and flattery is as wide as that between praise and blame. The flatterer always is a scoundrel, and the glad receiver of his flattering falsehoods always is a fool. Praise is a legitimate tribute to worth and worthy doing; and, when a man does well, tell him of it. Do not wait until a man is dead before speaking of his good traits. Let us have a little more "taffy" before death

takes us, and less "epitaphy" afterward. It always is safe to praise a man who really deserves praise; and, moreover, it will do you yourself good to praise somebody else.

The man who utters honest praise is noble, and his friends soon recognize it. The man who receives honest praise does so without feeling humiliation, and is made strong by it.

If you wish to be recognized and appreciated for certain traits or good works done, praise those things in others. We people of this world lean on each other. We need encouragement with every step.

We need to give praise to those who deserve it, that we may keep ourselves unselfish and root out from ourselves all niggardliness.

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Nature cannot be outraged with impunity. Although a generous giver, she is a hard bargainer; and invariably, in the long run, the man who works too hard who crowds the work of forty years into twenty and burns the candle at both ends will find that he accomplishes less by attempting to overmatch or cheat her than by accepting her own terms. The mind is monarch of the body; but, if it ever so far forgets itself as to trample upon its slave the slave will rise and smite its oppressor.

In all likelihood, the man who toils and moils at business, without relaxation or enjoyment, through the best years of life, with the hope of retiring at last and making the evening of life all holiday will never retire, except into an untimely grave.

The proper remedy for a period of unhealthy living is not, to work double tides, not an hour or two occupied in drawing off the remaining strength of an overtaxed system but now and then an entire day or week or month given to relaxation and renovation and to mere physical improvement.

Vacations and frequent holidays, though but for a day, are the true safety valves of professional and business men; and he who grants himself occasional rest not only will live longer, but will do more work than he who drudges from January to the last day of December.

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Adversity has the same effect on a fool that a hornet has on a mule. It sets him to kicking back. If you are made of the right stuff, you will encounter the troubles and trials of life unflinchingly and uncomplainingly.

Adversity often is a blessing in disguise. The school of adversity graduates the ablest pupils; and the hill of difficulty is the best of all "constitutionals" for the strengthening of mental backbone.

If you refrain from "kicking" when trouble comes to you, it is an evidence that you have the right stuff in your makeup. You need trials to develop your character. Great men can no more be made without their encountering trials than bricks can be made without fire. The furnace of adversity often purifies a man and separates the good metal of his nature from the dross by which it was obscured.

Do not "kick" back or even sit down and cry over these poor old "might have beens." Just accept what comes to you, and do your best, content to know that by and by will surely bring vacation-time, the unending holidays and eternal home.

Remember how many otherwise sweet natures lie all about you, spoiled by prosperity, like overripe apples in the sun.

Life all sunshine without shade, all happiness without sorrow, all pleasure without pain were not life at all and not worth living.

Be patient. That attitude of mind is the only remedy against the ills of life.

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Eat to live, instead of living to eat. If there is any possible exception to this rule, as applied to human strength and development, it is with the young and growing child. However, surfeiting, even with proper food, is never advisable during any stage of life.

Old people, after the activities of life in a measure have passed by, should practice especial care in relation to food, air, and exercise. The latter should be performed out of choice, and because of the pleasant associations attending employment practicable in moderation and for the love of it.

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Proper and needful exercise stimulates appetite and digestion, and it enables the aged person to eat to live, in lieu of living to eat, or of going through the ceremony of taking food at regular intervals, regardless of the demands of the system. Only very little food, even if of proper quality, can be digested and assimilated by the aged, unless continuous physical activity is kept up.

An excellent rule for people of advanced life is, first, never to take food unless appetite demands it; and, second, never to continue to eat until appetite is satisfied completely.

While this rule is good for all, it is especially desirable for those who have passed the middle mile-post of life, and its observance will prevent sluggishness of the liver and con-

sequent hypochondria, thus enhancing greatly the enjoyment of life.

The observance of proper hygiene is of especial importance to those in the evening of life, to the end that their last days may be spent in peace and comfort.

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You must love your work, and not always be looking over the edge of it, wanting your play to begin. Put heart into your work, and do not look on it simply as a means of earning money. If you were in perfectly normal condition, you would find your greatest joy, as well as your highest ideal, in achievement.

These are conditions which an ordinary man who finds in his vocation only a mere interest to earn his bread and butter never knows. The majority of people are satisfied to do only that which they are obliged to do. They do not care to undertake more than conditions demand. They are always wishing that their circumstances were different, always bemoaning their hard luck in not having been born under a lucky star, or wailing because they have not been assigned to a less arduous task.

How few people ever enjoy the experience of doing a disagreeable task thoroughly or delight in the results of such labor! Many work in the fog and under clouds, rarely seeing the beauties of the sunlight about them. No one is normal who does not positively enjoy working, who does not feel that it is healthful exercise for mind, body, and soul.

Yet, men seldom are satisfied, constantly spurring themselves to do more, until their recuperative power is so exhausted that nothing is done as well as it might be if they took time to rest and renew their powers. All of their vigor is wasted in the very excess of ambitious stimulus, and they finally break down from overwork and from robbing themselves of sleep, nourishing food, and healthful exercise.

You must learn how to utilize to the best possible advantage all the physical and brain-force generated. Most people waste a large part of their powers—squander their brain- and nerve-force in a way which they would utterly condemn if, instead, they had wasted money.

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Keep your teeth clean, and they won't decay. How shall they be kept clean? With a toothbrush, of course, says someone.

Yes, a toothbrush is a good thing, but one good toothpick is worth an armful of tooth brushes. The toothbrush does well in keeping the flat side of the teeth clean. But on those flat surfaces the food does not stick, and, so, there is little tendency to decay.

The mouth is a warm place—nearly a hundred degrees by the thermometer. If we eat meat today for dinner, the little pieces which find their way between our teeth will be exposed to the heat of the mouth and begin to decompose before tomorrow noon. If these particles of food are left between our teeth and allowed to decompose, ought we to be surprised that the teeth and gums suffer? A toothbrush will not go between the teeth and remove those bits of food.

On rising from the table, use a goose-quill toothpick thoroughly, then rinse the mouth, so as to remove such particles as the toothpick may have left behind.

Before retiring at night, use a toothbrush and a good tooth powder. Do the same thing on rising in the morning.

Consult your dentist frequently, that your teeth may be kept in good condition.

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"A laugh is worth a hundred groans in any market." Laughter is undoubtedly one of nature's greatest tonics. It brings the disordered faculties into harmony, it lubricates the mental bearings and prevents the friction which monotonous exacting business engenders. It is a divine gift bestowed upon us as a life preserver, a health promoter, a joy-generator, a successmaker. Life, with the average man, is too serious, at best. Never lose an opportunity for relaxation from the stress and strain of your business or profession.

Every draught of laughter, like an air cushion, eases you over the jolts and the hard places on life's highway. It tends to bring every abnormal condition back to the normal. It is a panacea for heartaches, for life's bruises. It is a life prolonger. "Laughter is a positive sweetener of life; but, like good coffee, it must be well cleared of the grounds of ill will. There is nothing on earth more delightful to listen to than witty laughter, and nothing more tormenting than the silly and causeless cachination of fools. Between a laugh and a giggle, is the width of the horizon."

Commend me to a good laugh—not that little snickering laugh, but a real laugh that will sound clear and round all over the house.

The first duty we owe a child is, to teach it to fling out its inborn gladness and joy with the same freedom and abandon as does the bobolink when it makes the meadow joyous with its song.

Learn to laugh, and to laugh aloud, with unrestraint.

Among the Books

TAYLOR: "CANCER"

Cancer: Its Study and Prevention. By Howard Canning Taylor, M. D. Philadelphia and New York: Lea & Febiger. 1915. Price $2.50.

Doctor Taylor, in his preface, very pertinently reminds the reader that there are two phases of the treatment of the cancer-problem; one, the acquisition of more information regarding the disease; the other, the analysis and utilization of the data now in our possession. The former division of the subject is the task of the investigator and research-worker; the latter belongs to the clinician, aided by the patient.

Doctor Taylor thinks that neither the opportunity nor the obligation of the clinician to contribute to the general knowledge of cancer is grasped as clearly or is met as assiduously as they ought to be. He holds it to be the plain duty of all practitioners to preserve more accurate records of patients afflicted with cancer and to submit them to the clearing-house of general scrutiny. Moreover, while he is thus collecting data, it is equally, and perhaps even more emphatically, the duty of the physician to utilize to the best purpose the data already available.

The purpose of the present book is, to put together these facts and data and place them within the reach of the profession and of all others who may be interested in this gigantic, and heart rending problem. The author's wide experience, as gynecologist to the Roosevelt Hospital at New York and as professor of the subject in Columbia University, enables him to speak with considerable authority and to support his statements with ample evidence.

FISHBERG: "PULMONARY TUBERCULOSIS"

Pulmonary Tuberculosis. By Maurice Fishberg, M. D. Philadelphia: Lea & Febiger. 1916. Price $5.00.

The necessity of detailed special treatises on consumption, this widely prevalent disease, with its diversified and protean manifestations, becomes evident, among many other things, from the apparently paradoxical clinical truth that *incipient* does not always mean *curable* tuberculosis, and, conversely, that *advanced* disease does not necessarily indicate a hopeless outlook. The reasons for this contrariness of tuberculous disease require careful study.

The author has based his views on the drug-treatment upon his experiences in New York. We have knowledge of a great many things, not mentioned in this book, which are of decided value at some time or other in the course of this disease. Also the reviewer cannot agree with Doctor Fishberg in his rather dubious endorsement of specific treatment, being convinced that this is of far greater importance in the treatment of selected cases of the disease than the author is inclined to concede. Very naturally much depends upon the kind of "tuberculin" that is employed. When once a proper "antigen" will be available and when practitioners will be fully trained in its use and in the immunology of tuberculosis, we venture to predict that the morbidity and mortality of pulmonary tuberculosis will both diminish; more particularly after the idea of prophylactic immunization has found acceptance and has been put into practice.

CARLSON: "OBSTETRIC QUIZ FOR NURSES"

The Obstetrical Quiz for Nurses: A Monograph on Obstetrics for the Graduate and the Undergraduate Nurse in the Lying-in Room. By Hilda Elizabeth Carlson. New York: The Rebman Company. 1915. Price $1.50.

The author has attempted in this volume—somewhat extravagantly called a monograph—to arrange the salient facts that should be known to obstetrical nurses. As a whole, the task has been well performed and the information is given in simple and concise words. When, however, the author answers her question "What is jaundice?" by saying that it is "a yellow discoloration of the skin," we must differ with her most emphatically. It is to be hoped that this and other inaccuracies will be remedied in a subsequent edition of this, otherwise quite useful reminder

for nurses; also that it may not be made to replace textbooks, but be used to serve only as a means for rapid reference and to refresh the memory.

COOLIDGE: "DISEASES OF NOSE AND THROAT"

Diseases of the Nose and Throat. By Algernon Coolidge, A. B., M. D. Illustrated. Philadelphia: The W. B. Saunders Company. 1915. Price $1.50.

While this little volume does not lay claim to present a complete treatise on the diseases dealt with and only promises to afford a guide for their study, the descriptions of diseases are very full and sufficient for the purposes of the general practitioner. To cite one instance, that of a "cold" is quite complete in its graphic details. It is in accordance with the nature of things that the treatment is usually mechanical—surgical. While drug-treatment, more particularly biologic treatment, is not neglected, it might have received a little more consideration, as it is, undoubtedly, effective in many instances.

"MEDICAL CLINICS OF CHICAGO"

The Medical Clinics of Chicago. Published by The W. B. Saunders Company, of Philadelphia. Price per year (6 numbers), paper, $8.00; cloth, $12.00. Vol. I, November (No. 3), 1915; and January, March, May, 1916.

The reviewer desires to emphasize the great practical value of publications of "clinics," that is, of lectures delivered before a class of students or physicians and illustrated by cases in point that are demonstrated to them and which they have an opportunity to examine. For the reader of such "clinics," it is hardly necessary to have the patient before him in order to benefit from the lectures; for, these are usually so clear and graphic that the practitioner will recall cases of his own falling within the description by which they may often be elucidated.

We believe that this form of publication has contributed in making the works of Trousseau, of Charcot, and of other great clinicians imperishable. It brings the salient points of clinical problems before the mind's eye far better than do the descriptions (so often dry-as-dust) found in textbooks; it makes us see concrete cases of disease, with their diversity and multiplicity of symptoms, and arranges them before us in an orderly manner for our guidance in examination and study. In short, the clinical lecture tells us all the material points of a given disease-complex in such a manner that we may retain them and make them useful for practical everyday work.

On the other hand, textbooks present cold, lifeless dissertations on diseases in which the personal element is entirely wanting. Often it is impossible for the tired physician to engender sufficient enthusiasm to work his way through pages of text in order to establish the point that he is trying to find.

Textbooks are excellent for the student to obtain information upon diseases in general and in particular; they are of service to the physician to refresh his memory, as when he wishes to establish the differential diagnosis of a particular case of disease or to look up the etiology, symptomatology, treatment, and so on; and, finally, to round out and complete the information gained in actual clinics or in published clinical lectures.

For a live, interesting, and informing discussion of actual cases, clinical lectures by men who deserve to stand high in the medical profession are far superior to the usual publications, in their immediate, personal appeal. The "Medical Clinics of Chicago" form a good specimen of this class of medical literature. Reproducing the clinical lectures of some of our most noted clinicians, they present a wealth of information that makes them highly useful. To enumerate all the good things in the four numbers before us would mean to give a complete list of the contents; and that hardly seems necessary. Physicians will find a subscription for the "Clinics" an excellent investment.

GOULD: "MEDICAL DICTIONARY"

The Practitioner's Medical Dictionary. By George M. Gould, A. M., M. D. Third edition, revised and enlarged by R. J. E. Scott, M. A., M. D. Philadelphia: P. Blakiston's Son & Co. 1916. Price $2.75.

This new edition of Gould's medical dictionary has been enlarged by the addition of some 20,000 new terms which have come into use since the publication of the last edition. It is a handy volume, containing definitions of over 70,000 medical terms. The type is clear, although rather small, at least for the eyes of the reviewer.

At the time of its publication a dictionary can only be announced; it can hardly be accorded a critical review until after close and frequent consultation for, say, six months or more. Those terms and definitions which

have been looked up are well given and explained. At all events, "Gould" has always been a great favorite among practitioners, as certainly it has deserved to be—not the least of its features having been the aim at linguistic purity and etymologic accuracy, not to mention the excellent illustrations and many useful tables. As to the present edition, the change, from the former ponderous and costly 2-volume style, to the present popular-priced edition, is worthy of especial note.

TRUDEAU: "AUTOBIOGRAPHY"

An Autobiography. By Edward L. Trudeau, M. D. Illustrated. Philadelphia: Lea & Febiger. 1916. Price $2.00.

The history of the antituberculosis crusade in the United States is typified in the history of Doctor Trudeau. Beginning in a small way, tentatively, intuitively, in fact; then, with gained experience and under the stimulation of Brehmer's work, more courageously, but always empirically, his work progressed steadily, utilizing the acquirements of scientific research as they became known; always with an unconquerable enthusiasm and persistence that tore victory from the reluctant hands of adverse circumstances.

The account given by Doctor Trudeau himself in the simplest language, unaffected and without any attempt at literary scintillation, is a graphic description of an important chapter of the history of civilization because it bears on the awakening of the public consciousness to the need of guarding the people's health as one of the greatest assets of national wealth. Yet, it is simply a recital of his personal experiences, first in arresting the progress of the tuberculous disease, which had made his life in New York impossible, then in making the same beneficial influences in the Adirondacks available to others, particularly to those who could not enjoy them through their personal means, until in time, from small modest and even crude beginnings, the beautiful Adirondack Cottage Sanatorium of today stands as a monument of the indomitable courage and enthusiasm, the never-failing optimism of its founder.

A few things stand out strikingly in this personal account of Doctor Trudeau's experiences. First of all, his great faith in nature, in her kindly assistance to her sick children and as a corollary, his (one might say) childlike faith in, and certainty of, the loving guardianship of God. Then his persistence and undismayed tenacity of purpose in working, experimenting, planning, continuing even though he had to feel his way and acquire knowledge, from experience, through many failures and handicapped by ill health.

One of the notable characteristics of Doctor Trudeau was his faculty of making lifelong friends, and this was manifested by the great affection in which they held him, even to opening their purses widely to his needs, needs that, yet, were not his personal ones, but those of his charges. And, finally, besides many other impressive and attractive traits, stands out preeminently his devotion to his wife, the constant, courageous, and helpful companion of his life and work, his helpmeet.

Doctor Trudeau, in his career, has overcome great difficulties, he has lived a rich life, that is, one by which thousands of others were benefited, as will be uncounted thousands to come. In the kindly, unassuming simplicity of his life, the steadfast forging ahead toward his goal—though this might be sensed but dimly—in the readiness to give credit to those who helped and aided him, Doctor Trudeau is a great man who lives in his work.

DEARBORN: "THE INFLUENCE OF JOY"

The Influence of Joy. By George Van Ness Dearborn, Ph. D., M. D. "Mind and Health" Series. Boston: Little, Brown & Co. 1916. Price $1.00, net.

The author of this volume, Professor Dearborn, for years has made a special study of the physiology of the emotions—a task for which, as a physiologist and psychologist, he is particularly fitted. The results of this and other investigations on the subject should prove of deep interest to the physician, as well as of great service in his dealings with the sick, whose minds usually are as much in need of readjustment and reestablished equilibrium as are their bodies.

HOWARD: "THERAPEUTIC VALUE OF THE POTATO"

The Therapeutic Value of the Potato. By Heaton C. Howard. New York: Paul B. Hoeber. 1914. Price 50 cents.

This pamphlet is based upon an article contributed by the author to *The Lancet* (London) of April 11, 1914, in which he reported upon some interesting observations, to the effect that fomentations and other applications of potato-juice relieve the pain of swollen joints, and the like, in synovitis, gout, "rheumatism," and other like affections.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6224.—"Relief of Pain of Leg Ulcer." G. L. S., Missouri, asks how we would proceed to relieve "the excruciating and unbearable pains in a case of leg ulcer of long standing." Mechanical support elevating the limb, and the like, have afforded no relief whatever.

We can suggest several things that have been found of use. Menthol, 1 percent, in oxide of zinc ointment, usually acts as an effective local anesthetic. An ointment prepared from salicylic acid or sodium salicylate, in a base of lanolin, has the same action. A member of our staff strongly recommends orthoform

It must not be forgotten that endophlebitis or thrombosis of one of the small vessels leading to the part, may stand in relation to pain and may require special treatment; and, finally, that the explanation of the obstinate and excessive agony in such cases often is found in a syphilitic history. All these are points which are offered for your consideration, and we must leave it to you to determine upon the best means to employ in any particular case.

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QUERY 6225.—"Tachycardia of Obscure Origin." J. R. M., Missouri, requests assistance in the following case. A woman patient, aged fifty-seven years; present weight 124 pounds—reduced from 132 pounds six weeks ago—has been ailing for four months and steadily losing weight, although her only complaint is that she gets spells of shortness of breath. She has attacks of marked cardiac palpitation. She has no cough, no asthma, no discernable heart lesion, no bladder symptoms, no headache, no dizzy spells. Her appetite is good and her bowels are regular, and generally she sleeps well; in fine, about all that she complains of is that shortness of breath, besides weakness. Any exertion brings on an attack, which will last for about a quarter to a half hour.

Unfortunately, the clinical picture offered, doctor, is not very clear. We have here a woman fifty-seven years of age, who is losing weight (lost 8 pounds in the last six weeks) and complains of attacks of shortness of breath, the only objective symptom being, rapid heart action for which there seems to be no organic basis, and general weakness. The attacks are brought on by exertion. The chemist's report on the analysis of the specimen of urine submitted shows an excessive elimination of total solids, also the presence of a trace of albumin, which means that there is some loss. Microscopical examination presents evidences of kidney disease, more particularly because of the presence of hyaline and granular casts and cylindroids; also of renal cells and red blood-cells.

We are not satisfied, either from the uranalysis or from the symptoms, that the renal affection is far advanced The combination of short breath, rapid heart action, and general weakness rather leads us to suspect an intoxication with the internal secretion of the thyroid gland, and we should like to know whether there is any tremor, more particularly of the hands, also of the tongue when it is stretched out; furthermore, whether the thyroid gland is enlarged or indurated and whether any exophthalmos or bulging of the eyeballs is observable. In addition to this, it would be useful to know the blood pressure, both systolic and diastolic, taken at different times, sitting and lying down.

The attacks of tachycardia probably will be relieved by cactoid, 1-64 grain, placed on the tongue and allowed to dissolve there, the dose being repeated every ten minutes, when the symptoms are distressing, until the heart has quieted down. With that, the respiration also will be lowered.

In the way of general treatment, it will be well to make sure that elimination is sufficient. Even though the bowel action is said to be

"good," it will be well to give calomel, 1-10 grain every hour for ten doses, adding to every second dose 1-6 grain of podophyllin, and a laxative saline next morning—which latter may be repeated the second morning. If there are any symptoms of intestinal intoxication or of intestinal fermentation, the combined sulphocarbolates, and these followed by a course of the Bulgarian bacillus, will be of service.

It would be interesting to know the percentage of hemoglobin, as a further aid in determining the presence or absence of organic disease; otherwise, the purely neurasthenic or neurotic character of the woman's attacks must be kept in mind as a possibility. We do not suspect this possibility very seriously, though, because of the clear evidence of kidney disease.

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QUERY 6226.—"Narcolepsy." C. N. S., New York, describes the case of G. H., a young unmarried woman of eighteen, who complains of excessive sleepiness. He writes: "Her family history is good. The patient lived in the East until about five years ago, when the family moved west. Previous to this time, she was supposed to be rather delicate, but one month after she moved she began to have her menstrual periods, and from then on improved in health and began to gain in weight. The menses now came regularly every twenty-eight days, without pain, for about eight months, when 'she took cold,' and she skipped one period. From that time on, her periods have been somewhat irregular, at one time having been suppressed for five months.

"About one year ago, she began having attacks of tonsillitis, and one month ago I removed her tonsils. For a year she has had attacks of what her doctor in the West called asthma. These may come on at any time, when she becomes choked up and short of breath; they last from one to four hours.

"The present complaint is, that she suffers from undue sleepiness. This condition began about three years ago and has been getting steadily worse. At that time, she was in school in Indiana and she says that she used to bite her lips and inside of her cheeks in an effort to keep awake. At one time, she went to sleep while eating her dinner and when some 175 other students were at the tables. Her sleepiness was not owing to lack of sleep at night, for she went to bed regularly at 9:30 p. m., and arose at 7:30 a. m.—but, feeling just as sleepy as when she went to bed. She frequently said to her mother that she felt 'so tired.' This condition has persisted until the present time. She may sit down in a chair in the middle of the day and in two minutes will be asleep, and so soundly that she has to be shaken to wake her. When she is asleep in the daytime, she sleeps quietly and does not dream, but during her night-sleep she dreams continually. Her dreams are generally of some such character as being chased and being unable to run, or similar disagreeable circumstances.

"Her habits are good, also her appetite; bowels are regular, moving at least once a day. She urinates four or five times during the day, once or twice at night; never experiences any burning or distress. She drinks considerable water, and uses no tea, coffee or alcoholic beverages. At the present time, she retires for the night at about 9 and arises at 7:30 or 8 o'clock.

"This young woman is 18 years of age; is 5 feet 3 inches in height; weighs 172 pounds (one year ago, she weighed 179 pounds); is very well developed; her hair is of fairly good length, not brittle, nor are there any bald spots, skin is clear and of fine texture; teeth are in excellent condition, no pyorrhea present; tongue is clean and of normal appearance; heart is normal as to size; heart-sounds are somewhat hard to hear, owing to the large amount of overlying fat, but they seem to be absolutely normal; no murmurs are audible; lungs are normal; abdomen and extremities are normal (genitalia were not examined); pupils are equal and react equally to light and accommodation; reflexes are normal; temperature is normal; pulse of good quality and is perfectly regular, rate 76; respirations is 17 to 18 per minute.

"Urine: normal in amount; specific gravity, 1021; fairly clear, amber-colored; slightly acid; no albumin nor sugar present; indican amount, normal; microscope reveals nothing but an occasional leukocyte or epithelial cell. Blood: hemoglobin, 80 to 85 percent; leukocytes, 8000; erythrocytes, 5,950,000. No differential count was done. No Wassermann test was taken.

"The patient's general appearance is one of robust, good health. She is of what would be termed a lymphatic temperament, one of the even-tempered individuals who seem to be 'always of the same even disposition.' One hardly could call her face expressionless, indicative of a possible myxedematous condition." So far this exceptionally fine presentation.

Some three or four years ago, a very similar condition was reported by one of our corre-

spondents, and at the time the nature and the causes of excessive somnolency were discussed at some length in this department. As a matter of fact, narcolepsy—the technical term—has not received much attention by the authors of textbooks; however, a most interesting article on the subject, contributed by Dr. Thos. W. Harvey, of Orange, New Jersey, appears in volume iv of "International Clinics," 21st series.

It is generally stated that excessive somnolency is to be regarded as a symptom of approaching uremia or diabetic coma. The condition, of course, is also observed in tumor or abscess of the brain or in cerebral syphilis. With an organic cause excluded, it may be the result of intoxication (gastrointestinal) or a manifestation of obesity, hysteria or epilepsy. Naturally, the management of each case must be based upon a rational conception of the causative condition; unless properly diagnosticated, medication is not likely to prove of value.

Raymond describes narcolepsy as "a disease characterized by a sudden and irresistible inclination to sleep, coming upon the individual outside the hours usually passed in slumber, which is more or less periodic and may be of variable duration." He says further that such form of sleepiness may be owing to general diseases, as, for instance, gout or rheumatism, or renal, hepatic or gastrointestinal intoxications. It also may be attributable to obesity—and we observe that this patient is decidedly obese. He says that "there is a very strong resemblance to epilepsy, in certain cases." Two cases described by him, very much resemble petit-mal. He thinks that most cases of narcolepsy, not associated with or dependent on some incurable disease, have a tendency to get well under conditions favorable to good health.

You will remember, of course, the fat boy in Dickens' "Pickwick Papers," of whom the squire frequently remarked, "Damn that boy; there he is—asleep again." You will also realize that most fat people have a tendency to be more or less somnolent at times, especially if their elimination is poor. Hence, the popular expression, "a sleepy fathead." Several writers recognize the association of excessive somnolency with obesity and have considered it to be caused by certain hitherto unrecognized toxins.

One case is described in the literature in which the attacks of sleep were induced by any pleasurable emotion; then, again, such profound unconsciousness has occurred only in the dentist's chair or while the individual was undergoing some minor operation without an anesthetic.

In a case mentioned by Harvey, a young woman, during her first pregnancy, would fall asleep and remain somnolent for two or three hours, and during this period could be aroused only with difficulty. Strangely enough, at her confinement, such a seizure occurred and she slept through the last expulsive pains without the slightest knowledge of what was going on.

Doctor Dana, in a recent interesting paper discussing the phenomena of sleep, divides the attacks of narcolepsy into three groups: (1) Epileptoid sleeping states corresponding to petit-mal; (2) hysterical sleeping states; (3) cases when it is difficult to find a cause. The predisposing cause is, a neuropathic constitution. Among other exciting causes, he mentions malaria.

In the case under consideration, if it is at all possible, we should make a thorough examination of the reproductive organs. We should also institute thorough eliminative measures—renal, dermal, and intestinal—and place the young woman on a low protein diet. Do not forget the possibility of thyroid insufficiency. On general principles, we should be inclined to administer small doses of thyroid gland, preferably in conjunction with the arsenates of iron, quinine, and strychnine. Change of scene and surroundings should also be recommended.

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QUERY 6227.—"Proof of Value of Active Principles." M. B., Nebraska, in a most interesting letter, advances his present opinion (which further experience will, we hope, modify) of the active principles and "positive-therapeutics" methods generally. He writes:

"My father, after many years of their use, is a firm believer in the active principles. Perhaps they are good; I am always open to conviction on these things, but I have had nine years of the most rigid kind of scientific training and have acquired habits of skepticism relative to everything that has not been accurately checked by laboratory methods. When I read the enthusiastic letters of members of your "family," I can sympathize with their enthusiasm; but there come into my mind the thousand and one avenues of error which may beset their observations.

"My training was received at —— Medical College. As you know, their pharmaceutical horizon is limited and their faith in the specific and selective action of drugs very

scant. But, their methods of arriving at conclusions have appealed to me; I have worked with them and they seem correct.

"Your teachings would be beautiful, if they could be shown to be true. I wish I could believe in them. But how do I know they are true? I do not say they are not. I merely say, I do not know. Must I take the word of clinical observers as to what they *thought* they saw, without a single measurement or a single accurate quantity reported? I observe that chiropractors (and I mean not the least opprobrium by this comparison, and should not think of putting you in the same class with those people; still, it makes a good illustration, if you will pardon it) also are very enthusiastic about their methods, after many years of practice and clinical observation. So, likewise, are Christian Scientists. Please pardon my writing this way. I do not know for what particular purpose I am doing so, but I can give my reason: I am puzzled."

First of all, doctor, let us point out that the active principles are definite chemical substances, and they are just as definitely acting remedial agents. If you will study the action of the alkaloids and allied products, you will surely have no difficulty whatever in convincing yourself that in administering these substances in small repeated doses to effect (remedial or physiological), you are practicing a precise therapy.

As a matter of fact, in years gone by, this entire field has been thoroughly covered, not once, but many, many times, and thousands of physicians throughout the country who, like your father, used the alkaloids and allied products know from experience (and, after all, experience is the best teacher) that the agents and methods we have so strongly recommended produce results heretofore deemed "impossible" of accomplishment.

You ask, "Must I take the word of clinical observers as to what they thought they saw?" No, indeed. You must simply accept their statements as a *basis* upon which to build your own observations. Still, it is fairly safe to assume that if several hundreds or thousands of common-sense, successful practitioners see the same thing they may be credited with a reasonable clarity of vision. For instance, if you give A 1-6 of a grain of calomel every half hour for four to six doses and secure as satisfactory calomel-action as would follow the administration of five times the amount of drug in one dose, without the undesirable action of the latter, you, naturally, are inclined to repeat that treatment; then, if B, C, D, and E all respond in exactly the same way, and you find that several hundred other practitioners also had precisely the same experience, you are reasonably safe in assuming that the small dose repeated at short intervals to effect, produces more desirable results than will a single large dose.

We, perforce, until we have had wide and varied experience, have to accept the evidence of other people. For instance, a child very soon finds out that unpleasant sensations follow the application of the bare finger to a hot stove lid; you may never have put your finger upon a red hot stove, but, if you are told it will hurt if you do, you do not show a very great amount of common sense (though you may reveal an investigative nature) if you put your finger on the next piece of hot iron you find. Then, if you do so, I am quite positive that from that time forward you will assert positively that the contact of human tissue with hot iron produces vesication and pain even though the action of the hot iron upon the human tissue has not been demonstrated to you microscopically. Another illustration: You are hungry and you have been led from your infancy, to believe that that feeling of emptiness in the region of the "equator" can be assuaged by the putting of food into the mouth. As a result, you eat and feel satisfied, and every time you feel hungry and eat the sense of hunger disappears. You only have the evidence of your sensations, because it is impossible for you to demonstrate each and every time with the test tube and microscope that the food you had in your mouth is assimilated by the cells and does not pass unchanged through the digestive tract.

Certain definite results invariably follow the execution of certain actions, and there is sufficient evidence to warrant you in testing the active principles along the lines laid down by prior observers.

Do not for one moment believe, doctor, that all these observations have been made by clinicians. An immense amount of laboratory work has been and is being done, and there is hardly an active principle that has not been physiologically tested time and time again. You can easily verify this statement by consulting, for instance, the files of the *Archiv f. experimentelle Pathologie u. Pharmakologie.*

There is a vast difference between the educated physician seeking the best available means to obtain a desired result and the Chiropractor who, as you say, is enthusiastic about his methods. His enthusiasm is based entirely upon the monetary returns that will

follow his manipulations. The true physician, as you know, also sometimes gets a monetary return, but quite often has merely the satisfaction of knowing that he has conquered a disease process that otherwise would have crippled or destroyed a fellow human being.

Please, do not for one moment confound Osteopaths, Chiropractors, Christian Scientists, and all that ilk with the positive therapeutist.

Doctor, your letter proves that your intellect is too keen and your analytical sense too well developed to cause you to "balk" at a trial of tried remedial agents simply because each one of them has not been definitely tested by you in the laboratory. We of THE CLINIC are doing most of that work for the practitioner, and when we present a product you may rest assured that it is as nearly perfect as modern scientific methods will permit.

QUERY 6228.—"Aletris Farinosa Is False Unicorn." C. W. H., Texas, says that aletrin is alleged to come from aletris farinosa, or true unicorn, while by others false unicorn is given as the source. Which is right? There is a vast difference, he points out, between the action of true and of false unicorn, and to use them interchangeably might mean trouble.

Aletrin, or, rather, aletroid (for it is a concentration) represents the combined principles of aletris farinosa (false unicorn root, blazing-star, stargrass, starwort). The name unicorn root is more properly applied to chamælirium, or helonias.

As you are aware, the commercial drug supplied under the name of aletris farinosa is generally the root of chamælirium. The two kinds of roots have no resemblance, in fact, are utterly unlike; yet, the substitution of chamælirium for aletris has been so general that Professor King, in a description of the root of aletris, describes that of chamælirium, and the American Dispensatory states that, owing to "the confusion which resulted from the substitution of the root of aletris for helonias, very erroneous statements had been made regarding the status of the drug."

Felter (Amer. Disp.) considers aletris as being a simple bitter tonic and stomachic, and as such recommends its use in indigestion, anorexia, flatulence, colic, borborygmi, and so on. A good preparation of aletris farinosa does, unquestionably, exert a tonic influence upon the reproductive organs, and may be given in conjunction with helonias. The latter drug has also been found beneficial in dyspepsia, anorexia, malassimilation, and so on.

The two drugs are fully described and the nomenclature is commented upon in King's American Dispensatory.

QUERY 6229.—"Metritis. Ulceration of Cervix." E. T. S., Ohio, writes: "One class of patients that gives me considerable trouble consists of women that are or have been married and who present a large, boggy uterus, usually an ulcerated os, with either a thick and purulent or gelatinous discharge continually covering the mouth of the womb; also, some pain in one or both ovaries. These women usually are 'run down,' always feeling tired. What can be done with these patients, without performing operation?"

Women suffering from chronic metritis and cervical catarrh usually respond promptly to hot alkaline antiseptic douches and the subsequent application of magnesium-sulphate (depleting) suppositories. The treatment of these and similar conditions is described fully in the articles headed "The General Practitioner as a Gynecologist," published in these pages during 1911 and 1912, especially the firth article, which appeared in the January, 1912, issue.

Where eroded or ulcerated areas exist, first relieve the uterine congestion with the douches and suppositories, and then apply to the cervix, with a cotton mop, a solution of silver nucleinate; then pack the vagina with gauze strips the upper end of which has been saturated with a combination of ichthyol, iodine, and glycerin. An excellent formula is this: Ichthyol, 2 drams; tincture of iodine, 1 dram; boroglyceride, 2 drams, glycerin, sufficient to make 4 ounces.

The iodine- and ichthyol-content may be increased. Practically the same results may be secured with equal parts of carbenzol and some bland oil. The gauze should not be allowed to remain in place longer than for forty-eight hours. Before replacing, a copious douche should be administered.

Internally, some such tonic as the arsenates with nuclein will be indicated.

QUERY 6230.—"Keloid?" J. A. J. Illinois is treating what he considers a keloid in a scar consequent upon an operation for gallstones. About a year ago, the Doctor applied light treatment, using a 1000 watt light. He gave daily treatments for five days, then a sitting every third day, for five treatments, and, finally, once a week for two treatments—

twelve treatments in all; with these results: The color of the scar tissue changed from purple to a bright red, with a pale-red area along the edges and at the ends of the scar. All pain and tenderness had left, but these began to show again toward the end of the second seven-day of the light treatments. The area is not at present as hard as it was before the light was applied. Our correspondent wants to know how long it will take for a cure, if such is possible.

You are aware of course, doctor, of the fact that the treatment of keloid is extremely unsatisfactory, in that it requires a very long time. Some excellent results, however, have followed the long-continued use of the x-rays after the excision of the growth.

J. Keogh Murphy an English surgeon, advocates treatment by means of chlorinetions (i. e., applying sodium-chloride in solution on the negative electrode of a battery), but insists that the treatment must be thorough and continuous. He also asserts that x-ray treatment is likely to give even better results.

The present writer is inclined to think that your patient's condition probably would be benefited by applications of thiosinamin compound, which, as you know, counteracts the overproduction and degeneration of connective-tissue cells. This preparation would have to be used hypodermically, of course.

Your own experience suggests that the treatment which you employed was beneficial, but that you did not give "dose enough" and also applied the treatments at too long intervals. The indication certainly seems to be that you continue the same form of treatment, only more frequently—say, once in four, five or six days, according to results received—while, also, you might combine it with the thiosinamin compound.

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Query 6231.—"Arsenical Paste." E. T. McG., Nebraska, writes: "I have a patient who has a cancer on the lower eyelid extending around to the center and up on the upper lid also. I have seen a "cancer cure," consisting of zinc chloride and pulverized sanguinaria root, recommended. Is water to be used in making this paste? Also, should some of this paste get into the eye or on the eyeball, what would be the result? Would it destroy the eye? Lastly, what, in your opinion, is the best cancer paste?"

If this is an epithelioma, location is unfortunate and caustics must be used with great care in the neighborhood of the eye. Any arsenical or zinc paste coming in contact with the eye would certainly imperil it; in any event intense pain and a rebellious lesion would result.

One method of treating such neoplasms is as follows: Mix arsenous acid, 1 dram, and powdered acacia, 2 drams. With the aid of water make this into a paste about the thickness of a rich cream, mixing enough to cover the lesion. But be sure to cleanse the sore thoroughly first with hydrogen peroxide and then with boric-acid solution, drying well with cotton. Leave this paste (laid on about the thickness of a silver quarter) in contact with the cancerous growth for twenty-four hours. The pain will be considerable and there will be some swelling and induration about the affected part. At the end of that period remove the arsenical paste and apply some one of the glycerinized kaolin pastes on the market, hot and thick; repeating constantly until the slough separates and falls away. Now you will have a clean sore to deal with. Cleanse this well, dry, apply a few small skin grafts and dress with bovinine, prepared bovine blood or sanguiferrin on iodoform gauze, protecting the grafts with a strip of perforated rubber tissue; over the bovinine-soaked gauze place another sheet of rubber tissue to retain the moisture, then some cotton and, last of all, a snug bandage. We believe this is the best method of handling skin cancer.

Internally push arsenic, nuclein, condurangin, and chelidonine.

The *poudre caustique de Frere Cosme* (a celebrated French formula) has the following composition: Acidi arseniosi, grains 10; hydrargyri sulphidi nigri, grains 40; pulveris carbonis animalis, grains 10. The powder is made into a paste with a thin acacia mucilage and applied as described.

In the present instance you might find it preferable to adopt Candler's plan, namely, to 75 parts each of ethylic alcohol and distilled water add 1 part of arsenous acid. Clean up and dry the lesion and apply the fluid thoroughly. In twenty-four hours an eschar will have formed. Then keep on a poultice till the eschar separates, applying between the poultice and surface one thickness of gauze soaked in thuja.

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A Self-Supporting Hospital for Self-Supporting Patients

THE group-idea of medical attendance is gaining ground, it being realized more generally that no single medical man can know all that is to be known about disease, and that cooperation rather than a division of work must be resorted to in order to arrive at a solution of the many problems which the constant growth of medical knowledge has presented. Team-work is not solely being practiced in the large hospitals, although there it has been developed and made useful to a remarkable degree. As a matter of fact, for years there have have been in existance, groups of physicians, associated for co-operation and mutual assistance, the individual members of these groups taking over special duties, while each one works for the benefit of the whole as well as for that of all their patients; the interests both of patients and physicians being guarded carefully by each of them. These small groups of physicians have been successful in many places, despite the many difficulties encountered in the practical working-out of the idea, and even though in isolated instances the undertaking failed, for one reason or another.

The modern public hospital is a development of the principle of charity, under which the sick poor are treated at the expense of the public—and at that of the physician. Everybody else, from architect, builder, and workman to the attendants and servants, finds his means of livelihood, the expense of which is met by the community and by private or organized charity. The physician alone is obliged to find his remuneration in the "experience" and in the socalled prestige which association with a hospital are supposed to provide. These hospitals are doing excellent work, thanks to generous endowments and—not the least—to the altruistic activities of the attending physicians. These institutions benefit the poor and provide for them medical services of the highest possible efficiency and completeness. For the convenience of those who have the means to meet the great expense necessarily involved, private hospitals are conducted; and here persons to whom a dollar is simply a convenient unit for counting money can command the services of an almost unlimited number of medical attendants, as they may be necessitated by their more or less complicated ailments.

It is the people—the large middle class,

the smaller business men, the salaried employees, tradesmen, workingmen—to whom each dollar represents one-hundred-cents' worth of hard and continued work and whose means of livelihood cease with illness, for whom no suitable provision exists in case of illness; and this in spite of the fact that they constitute the most important element, the backbone of the nation. If illness overtakes any of these, they are forced to accept either charity or the alternative of mortgaging their very souls, in order to raise the means for treatment. This is wrong. It must be possible to establish the practice of medicine on a reasonable business basis, by virtue of which people of moderate means may be enabled to receive efficient medical services without being pauperized, while at the same time the physicians will not be obliged to give their services free to every comer, no matter how great are their own personal necessities and those of their dependents.

In *The New York State Journal of Medicine* for July, Dr. J. Bayard Clark has an important article on the subject of a self-supporting hospital which is to be an economic step toward bringing what is best of present-day medical and surgical skill within the means of the many. According to Dr. Clark's idea, a hospital, such as he has planned, would provide accommodation for the sick of the middle class, those of moderate means; it would give them the benefit of all the special knowledge at the command of a large staff of physicians, each of whom, respectively, is supposed to be proficient in one or more particular fields. Simultaneously the attending physicians will have their own interests guarded in like manner as those of the patients are taken care of, in that they will be certain of suitable remuneration for the services which they extend to their patients.

Doctor Clark's hospital is to be a business venture pure and simple, without the handicap of endowment or of anything even remotely approaching charity. The sick are to receive the highest skill and the best services in return for a reasonable charge, sufficient not only to cover the expenses of conducting the enterprise, but also to include appropriate compensation for the attending physicians.

This hospital, as planned, is to accept both indoor and ambulant patients, all of whom will be cared for by all members of the staff whose special knowledge and training will prove of assistance in any given case. It is believed that the fees from the ambulant patients alone would go far toward making possible the moderate rates intended for the indoor ones. Certain it is that the plan provides for a far-reaching degree of team-work and efficiency of medical care and likewise for adequate compensation for all those whose services are called upon.

Doctor Clark's plan impresses us as being preferable to that of the "pay consultation clinic" recently established in the Massachusetts General Hospital, in Boston. We believe that its fruition would go far in the direction of solving the difficult economic problems now burdening the medical profession, while at the same time providing "better doctors for less money" in a manner not objectionable to the beneficiaries, but rather by a system that will uphold the dignity of the medical profession while at the same time enhancing the efficiency and usefulness of its members. Furthermore, it would, in addition, preserve the dignity of the self-supporting patient, making him feel that he gives a fair return for the aid received by him; that he is not the pauperized object of charity, and yet, receives proper assistance in his need.

If Doctor Clark's plan is feasible financially —and we hope sincerely that it is, we anticipate that it will be carried into effect in many cities and towns of our country.

In our nature there is a provision, alike marvelous and merciful, that the sufferer should never know the intensity of what he endures by its present torture, but chiefly by the pang that rankles after it.

—Nathaniel Hawthorne.

CURING TUBERCULOSIS

What a God-send it would be if physiologic therapeutics really were physiologic therapeutics. There is nothing more needed today than the instruction of our medical students in the principles underlying the practical application of therapeutics. This does not, by any means, signify merely the employment of drugs; it means, rather, the study of the objects with which treatment should be applied and the principles of treatment itself.

This leads us inevitably to what we have always urged upon the medical profession, and that is, the study or physiology.

Take, for instance, the treatment of tuberculosis. At intervals, the attention of the world is arrested by the announcement of some new remedy for this disease. No matter what the treatment is, it does good for a while. In fact, it is not easy to see how any treatment can be devised that would

not benefit the patient—only with one proviso; namely, that the patient should be sent to bed at the beginning of the treatment. Everything, from codliver-oil to tuberculin, will be followed by a decided improvement in the patient, if only he is compelled to rest. Time and again good observers in hospitals have announced that patients begin to improve, without any other treatment whatever, if only they are confined to their beds in clean, well-ordered hospitals and fed judiciously.

No outside remedy cures tuberculosis; the patient must cure himself. To do this, he must assemble his forces and wage an unremitting war against the invading microorganism. He must not neglect anything if he would win. No matter how inconsequent they may appear, these little trifles in the aggregate make up the difference between success and failure.

One of the cardinal points in the management of tuberculosis is, the presence or absence of fever. If elevated temperature is present, we may be sure of one thing, namely, that there is a vast increase in the radiation of liquids from the surface of the body, with a corresponding disposition to dryness of the tissues and consequent absorption of fluids into the blood. This means, more than for any other class of chronic patients, that the chronic tuberculous person is subject to fecal autotoxemia, the liquids being absorbed from the alimentary canal and carrying with them an unusual quantity of toxins. It is for this reason that the simple process of cleaning out the colon and keeping the tract medically aseptic causes such an enormous difference in the wellbeing of the consumptive.

We may say that the treatment of tuberlosis, therefore, consists, first, in putting the patient to bed; second, in completely cleaning out his alimentary canal and keeping it clean.

This writer has, for many years, been disposed to prefer for this latter purpose the sulphocarbolate of calcium. These patients always need lime, at any rate, and two scruples a day of the sulphocarbolate, if chemically pure, suffices to keep the stools free from undue odor, while at the same time it checks the disposition to hemorrhage and to colliquative perspiration.

The next step is necessarily the regulation of the diet, the object being, to administer to the patient as much nutrient as he can digest and assimilate (but no more!), so as to favor the reparative processes as much as possible. Care must be taken not to overload the stomach or the blood.

After all though, there is nothing that in any way can replace the conscientious, careful study devoted to the individual case by the physician. Observe these three therapeutic principles, and you may leave the rest—all the tuberculins, creosotes, and all other specifics, germicides, and the like, comprised in the list.

However, that does not mean that we should not avail ourselves of these agents when they are called for. Antiseptic inhalations, measures to allay cough when excessive, to quiet vascular turgescence, which might otherwise result in disastrous hemorrhage, are of value. We may say that the patient is sure to be benefited by the judicious treatment of any disorder that we may detect in his physiologic functionation. One of the symptoms that puzzled us considerably has been the presence of a subnormal temperature throughout most of the day. This indicates a low degree of metabolism and calls for especial care, since it is now recognized as one of the leading symptoms of tuberculosis.

The present writer feels like suggesting here one of the group of powerful stimulants of metabolism that from time to time are recommended as specifics in tuberculosis. Among these we may number mercury, gold, phosphorus, and platinum, adding to the list atropine. Its effect in tuberculosis-cases is so decided as well to justify an extended study, far more extended than it has yet received.

No remedy has been more frequently reintroduced as a specific than mercury, and this may be easily comprehended when we take into account its antiseptic properties and its tremendous stimulation of the eliminants, of the metabolic functions in general. Gold is a remedy with similar properties, but exceedingly dangerous to the incautious user. When salivation from this remedy once is established, it is a far more difficult matter to control than that of mercury. Platinum is practically unknown in medicine. All that we can say about it is, that it ranks with the two preceeding ones in a group. Some forms of phosphorus might well be studied, especially the phosphides of some of the metals. These remedies are too potent to warrant the neglect that at present is shown them. This writer has, for some time, been extending the field of zinc phosphide, with growing appreciation of its remarkable powers. If the chemists could supply a phosphide of copper

it might prove of especial value in combating infections by vegetable parasites.

Boost and the world boosts with you,
Knock and you're on the shelf.
For the booster gets sick of the man who kicks
And wishes he'd kick himself.
Boost when the sun is shining,
Boost when it starts to rain;
If you happen to fall, don't lie there and bawl
But get up and boost again.

SENILE NEPHRITIS

From the first, we have watched with interest Doctor Nascher's attempt to establish the medical care of the aged as a specialty. There is no reason why geriatrics should not constitute a specialty, the same as does pediatrics. In fact, there is for it much more reason, for, the aged are far better worth looking after than children. We speak from the standpoint of ourselves being somewhat advanced in years and progressing in that direction as year after year goes by. Hence, our peculiar personal interest in this matter.

Doctor Nascher has carried out his plans with marked ability. The articles from his pen dealing with the diseases of the aged, which have appeared in a number of medical journals, have always been interesting, and he has brought up a great many points that are overlooked by the ordinary practicing physician. However, while we have found very much to commend in these papers, it does not follow that we always agree with our eastern colleague, and this is especially true of the paper of his appearing in a late number of *The New York Medical Journal*.

In this article, Nascher calls attention to Walsh's studies, which demonstrate a progressive fibrosis in the kidneys, from birth and continuing throughout life. This degeneration consists in an increase of the connective-tissue fibers, which is greater than the growth of the kidney substance. Many times it results in the small contracted kidney of old age. According to Nascher, this change is not pathologic, but physiologic; a condition to be expected.

Here is where we are compelled to differ with Doctor Nascher, at least until one point has been cleared up. If the condition in question is strictly physiologic, it must occur in all individuals as they approach the given age. If it is not normal, nor universal, then there exist differences in the conditions of these individuals, which in some give rise to the contraction and atrophy of the kidney, while they do not in others. It is reasonable to believe that, if a man's diet or his mode of life in general be such as to cause a continuous irritation of the renal structure, we should have in due time a hyperplasia of the connective tissue, together with atrophy of the renal excretory cells.

It would be well, therefore, before we pronounce this condition strictly physiologic, to know something about the life of those in whom the condition is found, and especially with reference to four points; namely: first, the use of alcohol; second, the use of tobacco; third, the use of foods containing the volatile oils, such as pepper, horse-radish, and other condiments; fourth, and preeminently, as to the existence, through prolonged periods, of fecal toxemia which might induce irritation of the kidneys in their endeavor to eliminate vicariously the toxic principles absorbed from the intestine. It is our belief that one or more of these four conditions will be discovered whenever the history of such a patient can be secured; and that, as we believe, if persons more or less numerous, reach advanced age without suffering from this form of renal disease, they will be found to have been exempt from these four conditions.

We are not saying or intimating that no other condition will give rise to the malady in question; that it is a malady, though, we firmly believe.

According to Nascher, in the normal senile contraction, the fibrosis is uniform throughout the entire structure of the kidney, whereas in pathological forms it is only partial. Still, it is exactly such a uniform occurrence of fibrosis that we should expect when the cause is an undue irritation of the kidneys by the continuous passage through them, for many years, of such noxious substances as have been indicated above.

Doctor Nascher is quite right, however, in his assertion that in what he terms normal cases there may be practically no symptoms whatever of the kidney disease. This is largely because the man, in aging, has learned to avoid exertion to a greater or less extent —generally to an increasing extent; and, by limiting his exercises to his needs, he avoids those calls upon the kidneys for extra work that will demonstrate their insufficiency. Patients who have recovered from the acute form of nephritis, and even from chronic desquamative nephritis, exhibit in their after life this same peculiarity. They are free from symptoms, unless some overexertion throws an extra call upon the kidneys, to which they are unable to respond.

We should try to avoid the too common error of assuming that our knowledge, or even

that of the entire medical profession taken as a whole, is coterminous with truth itself. We physicians know a lot, but there are yet some things we do not know, but which in time we may learn, if we keep plodding on.

Let us take the common case of an elderly man, with impaired powers of the kidneys, and a destruction of kidney tissue that we are in no wise able to replace. Nevertheless, the patient still is alive and such renal tissue as he possesses still is capable of sustaining life. The problem, therefore, is to preserve what remains to him of health and of kidney structure.

We begin by relieving his kidneys of all extra work, carefully shutting out the four sources of irritants above mentioned. We also limit carefully the amount of physical exertion the man is permitted to undergo, but, on the other hand, we do not fall into the mistake of prescribing absolute idleness. In every instance, this is an individual consideration, and we shall have to be governed largely by the visible results; increasing or diminishing the amount of physical exertion allowed each day, according as the results may justify.

We know that thiosinamin has the effect of retarding the development of fibrous connective tissue or even of causing its dissolution to some extent. I do not mean that no other substance will accomplish this. For my part, I firmly believe that we have in zinc phosphide an agent that will do the same thing, and more.

It has been my practice for years to regulate the vascular tension in this class of patients, by a daily dose of veratrine, carefully gauged to the condition. I have given this to certain patients for a number of years, without missing a day, and have never known any bad results to follow. On the contrary, I believe this use of veratrine has been the means of prolonging the subject's life in most instances, and this even to a point that at first I scarcely should have believed possible. By its use, we increase elimination, while, in relaxing the blood-vessels, we improve the nutrition of the entire body in that a freer supply of nutritive material is thereby made possible.

Veratrine has the reputation of increasing the output of waste matter. It does not appear that it increases metabolism, but simply aids in carrying out of the body the waste material that otherwise would accumulate. We do not believe that the quantity of daily output of waste is increased by this agent. It promotes the removal of these waste matters from the body, instead of allowing them to accumulate in the cells or the intercellular spaces. As a rule, large doses of the veratrine are not to be recommended. We have many times secured from ½ milligram, three times a day, all the benefits capable of resulting from this drug, and more than from any other known medication.

Thiosinamin has been in the hands of the profession a good many years, yet, despite its enthusiastic advocacy by the prominent men of the country whence it came to us, we are not yet sure that it possesses much activity when administered by mouth. Given subcutaneously, there is no question as to its action; in our mind at least. However, in order to obtain best results, we always conjoin massage of the affected parts during the period of turgescence following the administration of each dose.

We think that all we should be justified in saying, after a good many years' use of thiosinamin, and also of piperazin, is, that these remedies may in some cases pretty nearly accomplish as much benefit as can be obtained from veratrine. As yet we have had no experience with Nascher's remedy for senile arteriosclerosis; which is, amorphous phosphorus in 1-grain doses three times a day. We should dread that this agent might also arouse a very undesirable sexual activity. Hence, we have preferred remedies more familiar to us, but without this objectionable feature.

One of Nascher's points is so important that we must take the opportunity of emphasizing it, namely, where he says that many times the death of aged people has been hastened through the renal stimulants given to overcome urinary suppression in acute nephritis. We sorrowfully confess that our own experience has been the same. The tremendous peril incurred by administering such remedies in any condition in which obstruction to the discharge of toxins through the kidney is present does not seem to be appreciated by the profession at large.

This is emphatically one of the conditions in which the first rule should be that of doing no harm. Especially is this true since, in quite a large proportion of cases, nature, if let alone, will reestablish the secretion far better than we can do. However, it may sometimes be deemed advisable to endeavor to secure vicarious elimination through the bowels, by injecting a cold saturated solution of salt. This causes a tremendous watery evacuation and thus carries away a certain proportion of the toxins, enough sometimes

to relieve the kidneys of their congestion and allow them to resume their operation.

There is one other point on which we differ with Doctor Nascher, and that is, the tendency of these patients to disobey our rules in regard to diet and other points about personal hygiene. Quite the contrary, we have found them to be the most amenable to reason of all our patients. As a man approaches the end of his life's journey, he ordinarily becomes more and more solicitous to postpone that ending as long as possible. He takes more vital interest in his own health, and we have, consequently, less difficulty in inducing him to follow our directions.

Nascher states emphatically that acute nephritis in the aged is the result of infection, usually extended from the bladder, while their cystitis is almost invariably due to the use of the catheter. Even though antisepsis in the use of this instrument is practiced, it is only a matter of time when cystitis will be induced by it. For this reason we would say, that the treatment of acute nephritis in the aged should begin by paying attention to the function of the bladder when first that function is disturbed or impaired. We should not wait until catheter-life has been established, but the first indications of failure in the expulsive power of the bladder should be met by appropriate remedies.

This study well repays the physician, and, if he will look into his arsenal of weapons he will find excellent remedies for his cases of difficult micturition. If, however, he is obsessed by the idea that there are only two remedies worthy of a physician's consideration (to wit, the serum and the knife), we can only extend our heartfelt condolence to his patients.

There is a great deal of advising and very little faithful performing.—Carlyle.

THE ASPIRIN-PATENT EXPIRES SOON

No doubt every reader of this journal has seen the newspaper advertisements of the Bayer aspirin-tablets. Large space is being taken and thousands of dollars are expended to advise people to purchase only aspirin-tablets stamped with the word "Bayer" in the form of a cross. The purpose of these advertisements, it is stated, is, "to protect the public against spurious and adulterated aspirin." The product is offered in handsome embossed tin "pocket-boxes of 12" as well as in bottles of 24 and 100. In this same manner, antikamnia started on its ethical toboggan-slide.

The "why" of this large expenditure is readily understood by those who know that the patent on this product expires February 27, 1917. After that date, any American manufacturer may make and sell aspirin and it will probably be possible to produce it at a greatly reduced price. This synthetic can be manufactured easily and cheaply—in fact, it was made in large quantities by a number of American chemical manufacturers while the patent in question was under litigation. The profits to the patentee have been, and are, enormous, while the infringing American firms were financially unable to carry the case to the upper courts—a fact that possibly may explain the outcome of the suit. It may be added that the validity of the Bayer patent has never been acknowledged by many of the most competent legal and pharmaceutical authorities.

Knowing that they can no longer easily hold their grip upon the medical profession when American chemical manufacturers enter the field, the house of Bayer (which heretofore has promoted this product solely through the medical profession) has now gone directly to the lay public. By this action, aspirin becomes a subject for general lay exploitation and self-medication; the doctor thereby being eliminated.

It is nonsense to maintain that the brands of aspirin that will be placed upon the market by the great competing pharmaceutical concerns after February 27, 1917, will be "spurious and adulterated" or that other people can not, and will not, produce just as good aspirin as does Bayer. But, if the laity can be convinced that this is so, the continued suggestion of this product as a cure for everything, from headache to toeache—everything in which pain is a symptom—will continue to bear rich financial dividends for the Bayer corporation; and doctors, too, will be influenced. It is the old specious patent-medicine, "use-only-the-genuine-with-the-name-blown-in-the-bottle" appeal, very skilfully worked over by a clever ad-writer, to meet "modern conditions."

There is, of course, no legitimate objection to the firm of Bayer using its strongest efforts to hold the aspirin business. Their product is good and they have a right to say so; and their tablets undoubtedly are of full dosage, and physicians should know this. But, to convey these facts to the *laity;* to promote their product (a powerful one, capable of doing harm as well as good) for self-medication; and to do this by plastering with the mud of insinuation the American chemical

and pharmaceutical manufacturers now struggling to secure a foothold, will not serve to increase the popularity of the house of Bayer with the medical profession of this country, providing the facts are understood.

There are physicians today who denounce and condemn facts which they do not understand with about the same spirit and vindictiveness that characterizes our forefathers.—T. D. Crothers.

DR. JOHN B. MURPHY

We shall not undertake to give our readers a sketch of the life of the late John B. Murphy, whose untimely death at the age of 58, from disease of the heart, no doubt already has been brought to the attention of every reader of CLINICAL MEDICINE. The details concerning his career have appeared in nearly every newspaper, and extended biographical notices will, of course, be published in *The Journal of the American Medical Association* and in other professional publications.

We do, however, wish to give our testimony of appreciation of the work and worth of this remarkable man—one of the greatest surgeons of his day, a man whose name is known to the profession throughout the world, and who has brought honor to the great city of the middle west which we also call home. Doctor Murphy was one of the greatest men of his time—not only a great surgeon, but a farsighted, deep-thinking, high-principled man of science. May Chicago have many others like him.

BANISH POISONOUS FLY-BANES

No man can practice medicine very long without being impressed with the number of ailments that might easily have been prevented by the exercise of a very little thought. But, then, common sense is one of the most un-common attributes of humanity.

Take as an instance this matter of the methods of ridding our homes of the fly-nuisance—fly-menace we might better say. *The Journal of the Michigan State Medical Society* got down from its high-science horse last November and enumerated no less than 22 instances of arsenical poisoning of children, the arsenic in every one of them being derived from some form of fly-poison standing about. All the victims were under six years of age, consequently too small to realize the danger, even if warned. But, then, how many of the mothers take the trouble to warn their children, even if they themselves are aware of the dangerous nature of these preparations? To the ordinary housewife, a fly-poison is just fly-poison, and she doesn't trouble her head about thinking further.

The legislature of the state of Michigan has passed an ordinance "regulating" the sale of such poisons. That is not enough: the law should prohibit their sale altogether, since there are at command safe and effective substitutes for exterminating flies without periling the little ones of the household.

The Child Betterment Bureau, Inc., of Chicago proffers an act for legislative consideration, which provides for prohibiting the sale of any kind of fly-killer of a poisonous nature, unless it is so "prepared, constructed or guarded" that it be inaccessible to children. But who can set limits to the capacity of an urchin in the laudable pursuit of knowledge by personal investigation—yes, what limits are there to the criminal carelessness of many grownups? To use the apt term of *The Lancet-Clinic*, in animadverting on the appropriation of $5000 for the study of the causes of crime and poverty, it is like "spitting upon a conflagration."

What's the matter with sticky fly-paper? Nothing at all—it's all right. Of course, baby will try to eat it, but it will try the experiment only once, and, beyond getting badly "stuck" on the proposition, it will not be hurt. The sight of the multitude of flies caught by a glutinous sheet will serve as a good object-lesson as to the untold myriads of these pests about our homes that still are our unbidden boarders. Often we think there is just one that buzzes around to interfere with our beauty-sleep, until we can count them on the sheet. Then, also, now and again the cat gets into the sticky paper, and thus the gaiety of nations is enhanced. Then the hilarity evoked will be well worth the cost of the article, if not of the animal as well.

Aside from the use of the plebeian sticky paper, there is another commendable plan. It's very simple: With a posthole-digger, make a hole about 3 feet deep, and into this empty all the garbage and waste water as they accumulate. Over this hole set a large fly-trap. By the time such a hole is filled up and ready to be covered permanently, the trap will be full of all manner of insect pests and ready to be emptied.

Through complexity we progress to simplicity. Peering through a telescope, we have fixed our eyes on the infinitely distant, and, aided by the microscope, on the infinitely little; we have implored the reigning deities to remove from us their pestilential

visitations; we have searched the far-away horizons for disease-bearing invaders. Now, at last, we have withdrawn our gaze and our attention from the far and the mysterious, from the supernatural and the incomprehensible, and allow them to focus on the near and the obvious—we now contemplate the fly, the flea, the mosquito, the bedbug, the louse, all the noxious insect-life that pesters us. More: at last we begin to make practical headway in the prevention of disease, for we are beginning to recognize the direct transmission of causal pathogenic organisms by visible means, rather than by mysteriously wafted effluvia. Get rid of the insect pests, and we shall realize—and then only—how much of evil they have inflicted upon us, entirely aside from the annoyances they have been causing us the world over, generation after generation; abiding in the lazy conviction that they are an unavoidable visitation of an inscrutable providence.

"The loud pronunciamentoes against the Materia Medica are the results of prejudice and ignorance." Abraham Jacobi.

SHOULD WE STUDY THE INDIAN?

In *The Medical Council* for March and April there appears an important paper by B. A. Warren, who is in charge of the United States Government Hospital in Arizona; and he seems to have tackled the Indian problem with open eyes and a spirit of fairness that certainly is commendable.

In the realm of medicine, it is what you can do that counts. What the laity generally employs a doctor for is, what they think he knows about a thing. The successful practice of medicine, therefore, depends upon what the physician can actually do and upon the suggestive influence he can bring to bear upon his patients. In the latter respect, the Indian medicine-man excels; although as to the former he is very ignorant and can do but little. Speaking of civilizing the Indian, Doctor Warren says:

"Whether the Indian can, or should, be civilized, as the white man understands civilization, is a big question about which there may be differences of opinion. I have yet to have positive information of any full-blooded Indian occupying a prominent place in the white man's civilization. The red man, black man, brown man, yellow man, and white man are each different members of the same family, much the same as the coyote, and domestic dog are members of the same family. Coyotes and bears both have been to some extent tamed and domesticated; but why not let them just be coyotes and bears, as nature evidently intended them to be? They seem happier, healthier, live longer, and perhaps do just as much good in their way. So it is with the Indian. He always has, generally speaking, been dirty, lazy, polygamous; and has made little or no advancement at any time, anywhere, along the lines of what we consider civilization. He is an Indian, and always will be. Why not let him fill his niche in the plan of nature?"

In this, Doctor Warren is not just. To the American Indian, we owe such plants as the potato, tomato, tobacco, and Indian-corn; and I will defy any man to mention four other plants of equal importance to humanity.

In the May number of the *Geographic Magazine* there is an amazing account of the agricultural methods employed by the Incas at a time when our ancestors decorated themselves with wood, that is worthy any man's thoughtful consideration.

The history of the Iroquois goes far to show a possibility of development on the part of the American Indian away above that of the pure bred negro. Colonel Parker, of General Grant's staff and later at the head of the Indian Bureau, was, I believe, a full-blooded Indian. Then, again, have we not Chief Bender? Who could ask for more in the way of highest development! Even though for a time the chief's good right arm may seem to have weakened, he is not all in yet, by any means.

But, while I do not agree with Doctor Warren in all respects, I must commend his article as being a worthy effort in the right direction; that is, of studying the Indian and his racial and therapeutic peculiarities. With the Indian, as with the negro, it is not a question of opinion. What I think about the capacities of either is of very little consequence. What any other single man thinks of them is not of much more; but it is important that we should think, and that we should investigate, not with any preconceived idea, but with the sole object of ascertaining the truth.

We should dismiss from our minds the whole sad picture conjured up by Harriet Beecher Stowe, the preposterous ideal presented by Cooper, the exquisite, but utterly wrongheaded conceptions of Chateaubriand, Marmontel, and the others of Rousseau's following, and come back to a study of the negro and Indian as they are. When we have

learned to do this dispassionately, free from prejudice, we shall begin to make some progress in the profoundly interesting subject of what is best for each of them.

To observe attentively is to remember distinctly. Edgar Allan Poe.

OUR QUERIES DEPARTMENT:

Our Queries Department was established for the purpose of stimulating discussion of problems that may have proven too difficult for the interested physicians to solve alone and which, therefore, they have submitted to CLINICAL MEDICINE; also to cause our readers to exercise their diagnostic and therapeutic acumen.

We confess that we are not often in a position to discuss the concrete problems submitted as intelligently and as pointedly as we would wish, for the simple reason that, as a rule, the physicians seeking our aid supply only the most meager, incomplete, and vague information. Despite our constant insistence upon the highly important truism, that we must treat patients rather than diseases, we still are importuned to name "the best treatment" for pulmonary tuberculosis, for example, or exophthalmic goiter, or dyspepsia.

Again, a specimen of sputum or, worse still, of urine is sent in for examination, without the slightest clinical information accompanying it; and upon this basis alone therapeutic "very best" suggestions are expected. It goes without saying that, in the entire absence of clinical data and with only the information supplied by the laboratory findings, we can have but an exceedingly slender thread upon which to fasten any process of reasoning by which a diagnosis may be established or a course of treatment outlined. In consequence, we usually thus are forced to indulge in vague generalities, which possibly may serve the observing physician to select from our suggestions those that he finds to apply to the case he has in hand, but which also may be valueless or even misleading if they are followed blindly, because of some peculiarities in the particular case, but of which we had no knowledge and which would have caused us to modify our conclusions and our advice.

It must be taken into consideration that the urinary findings in a given disease furnish merely a clue for a possible diagnosis. Of course, we can determine from them the existence or nonexistence of kidney disease; we can judge of its nature and severity and even some other facts about it fairly well, especially if repeated uranalyses are made in the same case. However, if no nephritis is present, the urinary findings are only of assistance in arriving at a diagnosis; they can not in themselves establish it. They may show, for instance, that metabolism is faulty, inasmuch as intermediary products of protein cleavage are present; thus indicating that foodstuffs have not been broken down completely into their elementary constituents, that intermediary products are absorbed into the circulation and tissue-fluids and are giving rise to autointoxication. Still, at best such findings are accessory and can be interpreted intelligently and serviceably only if the information which they afford is supplemented by the fullest possible presentment of the history of the particular case and of the results of a painstaking and complete physical examination. It follows, as a matter of course, that the advice which we are in a position to offer our friends is tentative and incomplete to the degree that the reports submitted by them lack in completeness.

Given the result of a sputum examination in which the general findings indicate only the existence of tuberculous irritation and in which but few tubercle-bacilli are associated with a few or many cocci of various kinds; the diagnosis naturally is one of chronic tuberculous phthisis, because the presence of tubercle-bacilli in the sputum indicates the existence of an open tuberculous lesion; but, we do not know and cannot know from the sputum examination how far the particular case has advanced or what are the individual possibilities and requirements in the patient's condition.

It must not be forgotten that the purpose of diagnosis is, to get an inventory of the patient's organic liabilities and assets; that is to say, by the examination of the patient's organs and of his secretions and discharges, we determine the nature, extent, and severity of those abnormal conditions that are present and interfere with his wellbeing. We also determine in how far the organs can accomplish their natural vital functions. Finally, we attempt to ascertain to what degree existing interference with the functioning of the vital organs can be restored by appropriate measures, and we determine how or by what means this restoration is to be accomplished; in other words, the diagnosis very naturally leads to prognosis and treatment.

If, then, the inventory of the patient's liabilities and assets is incomplete, it goes

without saying that we are not in a position to arrive at a satisfactory diagnosis and to outline as serviceable a course of treatment as we might do if we were provided with all the information that can be obtained concerning the patient in whose behalf our aid is being sought.

We are anxious and eager to be of as much assistance as possible to our friends—meaning, to all physicians and all patients. To enable us to vouchsafe you the best possible service, though, we beg of you, whenever you may have occasion to request our opinion or assistance (and we want you to call upon us without reserve), to tell us *all* that you yourself know about your patient, and to be sure that this is *everything* that you possibly can find out about him. It is only in this manner —and thus alone—that your query can be of practical and concrete value; under any other condition, our discussion of the subject must be general and its value to you limited.

Another point. When a case has been discussed by us, whether in the Query Department or only by correspondence, it will be of interest, and also of advantage, if you will keep us informed of the further course of the particular case. This, you will perceive, will enable us to round out and complete our information, it will show us to what extent our diagnosis was supported by the course and outcome of the case, and will justify the treatment which we had outlined; or, on the other hand, it may, in the future, cause us to modify our therapeutic plans for similar conditions and processes.

Manifestly, in a given case, the disease is not purely its very own, although, of course, the patient is anxious to get well as quickly as possible and is quite willing to let it go at that. The wise physician will make use of each individual case to expand and widen his clinical outlook and experience, in order in this way to become more and more fitted to recognize and to cope with the manifold and diverse disorders with which humans are afflicted. It is by close observation of individual cases in all their phases that clinicians *become*—are evolved. For, clinicians are not born; they are the result of observation and experience.

It is not so simple a matter to elaborate and plan the treatment for our correspondents as many physicians seem to think. If you want your patient to get full value for the money he spends for being cured of his disease, you manifestly must put us in possession of as much information as can be elicited. And, let us assure you, the best and more comprehensive requests for advice very naturally always will evoke the fullest consideration on our part. That is only human. If we see that the physician has done his own part in studying his case, in finding out about it all he can, and if he has gone to the small trouble of telling us the whole and complete story, it puts us on our mettle, and we are impelled to study that case with all the aids that are obtainable from the laboratory, from the several thousand books in our library, and from earnest counsel with all the physicians on the journal's staff, as well as with professional friends.

Now, then, it is up to you. If you want the Query Department to be something really useful, do your share—and don't treat us as though the query-editor were a clairvoyant.

"It is true that the voices protesting against the assistance offered by the pharmacopeia are impetuous, aye, stentorian; but, two thousand years ago, our old friend Plutarch taught us that all hollow things are sonorous."—Abraham Jacobi.

AGAINST KAISER ALCOHOL

In the days of Gustavus Adolphus, Sweden led Europe dominantly. But, a more redoubtable antagonist than Wallenstein then appeared, for, at that time distilleries were introduced and from that day the decline of Sweden as the world-power may be dated.

When Mackenzie Wallace prepared his book on Russia, he found that the priests of the Greek Church received a percentage upon the sales of liquor to their congregations. Under these circumstances, the amount of vodka consumed was enormous. By a single flourish of his pen, the autocrat stopped the consumption of liquor by 170 millions of men. So great has been the change among the people of that empire that even the staggering expenditures of the great war are pronounced materially less than the saving to the nation from the disuse of liquor. Nor is the saving, by any means, a financial one alone. The awakening of Russia is one of the most amazing phenomena of the age.

France has stopped the sale of absinthe for the duration of the war; and even Britain, which draws a lucrative revenue from her own sins, has greatly curtailed the use of alcoholic beverages.

We, in America, have ever been differential to the currents of public opinion in Eurpoe, and there can be no doubt but that we are being powerfully influenced by the great anti-alcohol movements of the old world. State after state wheels into the prohibition

column; and, while prohibition does, not by any means, prohibit, there can be no question but that it places limitations upon the use of intoxicants.

Of those who have most earnestly combatted alcohol in the United States, Dr. T. D. Crothers easily stands at the head. Even now, when the snows of winter are beginning to silver his locks, this remarkable man still displays the energy of earlier days. In a letter recently published in *The New York Times*, he outlines the latest plan for opposing the internal use of alcohol. This would affect the so-called moderate drinkers of this country which class he was exceedingly conservative in placing at two millions. To all of these, alcohol is an insidious and growing danger; but while every last one of them will readily admit this so far as it applies to the other fellow, he strenuously denies that he personally is among the number. Capital is becoming alarmed at the peril which moderate drinkers have brought to their interests, and more and more they are favoring total abstainers as employees. The transportation interests, where human lives are at stake, are especially earnest in securing abstainers. We quote from Doctor Crother's letter:

"To meet this want, it is purposed to establish a research-hospital. This institution will offer scientific examination, counsel, and advice. It will undertake to show what physical and psychological measures can be used to overcome the drink-impulse and prevent its recurrence. This is practically a work for the distinct purpose of giving relief and helping persons in the first stage of the drink-disease, before it has reached chronic stages.

"Conditions demand a scientific effort to study the subject on a higher plane and suggest causes and measures, prevention and cure."

Previous efforts have failed to influence the moderate and occasional drinkers, because they still believed that they had the power of control and were able to stop it any time without assistance. That this is a delusion, is well known to all who have observed or studied the matter at all. The time when the moderate drinker will seek relief or submit to intervention is, when he himself becomes conscious of his growing infirmity and of its effect upon others who are beginning to doubt his vigor and ability. That is the time when the resources of the research-hospital come in most aptly. Its occupation is, to concern itself with the physiologic and psychologic causes that are at the bottom of the drink evil and seeks to answer the question why men drink. Up to the present time, this has been a matter of theory and opinion. The drinker wants to recover, but cannot do so unless he knows why he drinks. "Such a hospital would be a clearing-house where men could go for counsel and advice, not for drugs or emotional appeals."

We commend in the heartiest manner this movement of Doctor Crothers. If the money that is now wasted on associations for buying flannel nighties for the Fiji Islanders or to induce the Hottentots to use hemstitched handkerchiefs instead of their shirt tails, would be devoted to some of the really great problems of humanity, some benefit might accrue.

Suppose we drop these fantastic means of squandering money on trifles and concentrate our efforts on the opposition to the greatest evil that has ever beset humanity, with possibly one exception. What we need is, a system of trench warfare, to seize every foot of ground that we possibly can cover, and then encroach upon every spot where another inch can be wrested from the enemy, until we finally push Kaiser Alcohol and his millions altogether off the face of the earth.

Success to Doctor Crothers. Long may he live to carry out his intelligent, modern method of warfare against this great evil.

Everybody believes that service creates obligation instead of paying it off. If you do anything for anybody you have to go on forever doing more and more, or you are a traitor and a brute. That is why we love the people we have never met—we have never made them the gift of a mortgage on our souls. We treat strangers with scorn and indifference, lest by being polite to them we become their servants.—Saturday Evening Post.

INDEPENDENCE DAY AND ITS CELEBRATION

Many years ago, *The Journal of the American Medical Association* started a crusade against the methods of celebrating Independence Day that had been in vogue since the beginning. There were good reasons underlying the demand for a reform. In 1903, 417 cases of tetanus were reported as the sequel of the Fourth of July celebration. In 1915, but one such case was reported in the United States, although by that time the reporting of cases was much more general and complete than it had been at the earlier date. Also the total number of deaths by accident on the Fourth of July fell, from 5177 in 1905, to 1165 in 1915. The reports for the present

year are not yet all in, but it is certain that the total will not exceed, if they equal, those of 1915.

Give credit where it is due, and we need not go out of our way to question the motive underlying the movement. Presumably the annual noisy outburst of patriotism offended the English ears of King George, reminding him of what to him was a very disagreeable episode in English history, or to any person born and bred under the English flag, even though particular individuals may be justly compared to the hairs on the tail of the British lion.

One of the results of the reform is, that large numbers of incipient Americans are left to grow up to add to the economic wealth of their country or possibly to die of measles, scarlet-fever, and other maladies. No good or ill happens, but that it carries with it a certain degree of compensation. The toy-pistol, driving its tetanus-breeding fragments into the hands of young Americans, undoubtedly has sent many of them to a premature grave—Americans who otherwise might have handled a rifle or a machine-gun pointed in the general direction of King George and his millions.

It must be remembered that the noise, the shouting, the firing, the fife, the drum and the day of wild liberty have had a good deal to do with arousing the sentiment of patriotism in the minds of these young citizens—and this by no means is replaced by the mature pleasure of listening to addresses or of looking at the parades.

An illustration of the way the Fourth of July and its old celebration impressed the youthful intellect occurred in the family of one of this writer's clients. The gentleman was an Englishman of good birth; he had settled in this country and here his two boys were born. One fourth of July day he came down, to find them setting off Chinese crackers, throwing torpedoes, shouting and generally whooping it up with all the zest that Young America could display. He took the boys into his study and addressed them rather sourly, "Why, James and Albert, what does this mean?"

The kids nobly responded, "Why, papa, this is the day we licked you Britishers."

The father was so overwhelmed that he retired to his study and sat there an hour considering the matter; but the native good sense which, after all, characterizes the Englishman, came to his rescue. He saw that his boys were Americans in feeling, that they had the birthright of American citizens. They were here to stay the rest of their lives, and it was only natural that their sympathies should be with the land of their birth and that in which their future lives were to be passed. So, he justly came to the conclusion that the boys were right and he was wrong, and all was peace in that household, henceforth.

Youth is warlike. Mars rules him until the days of maturity, and especially if Venus has begun to monopolize a large portion of the young man's thoughts, before Mercury rises upon his mental horizon and experience teaches wisdom. This is not usual until the gray predominates over the color of the hair on his head.

In earlier years, the shouting, the noise, the shooting, all mean an outburst of true patriotism, that leads him to feel that every torpedo or cracker is a shot directed against his country's enemy, for his country's sake. This is where he demonstrates, unwittingly, to his own mind his willingness to fight and bleed for that country. Here is where public sentiment has been directed against the destruction of American boyhood.

How much wiser would it be if the same potent influence were directed to make amends for the loss of this development of patriotism consequent upon the reform. Military drills, with boys clad in uniform and divided into companies, according to their ages, would go far to supply the want, especially if there were plenty of noise, shouting included, as every youngster loves to make a noise.

We cannot expect to find old heads upon young shoulders. It would be unnatural, unwholesome; and, however desirable the soberer celebration might appear to the aging lover of quiet and peace, this would not be a healthy development of boyhood.

Let those who dare to object to the old-fashioned Fourth of July take this seriously to heart, adopt the suggestion herein given and add to it a picnic with ice-cream and lemonade galore, and the other things in which the heart of boys would revel; then the toy-pistol and firecracker would not be missed nearly as much as they are at present. Also, the Fourth of July would remain in the boy's memory as something to look forward to from New Year's Day, with happy anticipation, and the patriotic principle would be duly impressed upon his inner consciousness.

Young America—native and hyphenated—should be taught to love our nation's natal day.

Leading Articles

Who May and Who May Not Marry

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Introduction

IN FORMER years, nobody thought of asking a physician for permission to get married. He was not consulted in the matter at all. The parents would investigate the young man's social standing, his ability to make a living, his habits perhaps, whether he was a drinking man or not, but to ask the physician's expert advice—why, as said, nobody thought of it. And how much sorrow and unhappiness, how many tragedies the doctor could have averted, if he had been asked in time! Fortunately, in the last few years, a great change has taken place in this respect. It is now a very common occurrence for the intelligent layman and laywoman, imbued with a sense of responsibility for the welfare of their presumptive future offspring and actuated, perhaps, also by some fear of infection, to consult a physician as to the advisability of the marriage, leaving it to him to make the decision and abiding by that decision.

As a matter of fact, as often is the case, the pendulum now is in danger of swinging to the other extreme; for, a little knowledge is a dangerous thing, and the tendency of the layman is, to exaggerate matters and to take things in an absolute instead of in a relative manner. As a result, many laymen and laywomen nowadays insist upon a thorough examination of their own person and the person of their future partner, when there is nothing the matter with either. Still, this is a minor evil, and it is better to be too careful than not careful enough.

I am frequently consulted both by physicians and laymen as to the advisability or nonadvisability of a certain marriage taking place. I, therefore, thought it desirable to prepare a paper discussing the various factors, physical and mental, personal and ancestral, likely to exert an influence upon the marital partner and on the expected offspring, and to state as briefly as possible and so far as our present state of knowledge permits, which factors may be considered eugenic, or favorable to the offspring, and dysgenic, or unfavorable to the offspring.

The questions concerning the advisability of marriage which the layman as well as the physician have most often to deal with are questions concerning venereal disease. On account of the importance of the subject, these are discussed rather in detail under the headings "Gonorrhea and Marriage" and "Syphilis and Marriage." Other factors affecting marriage, either in the eugenic or dysgenic sense, are discussed more briefly, and more or less in the order of their importance.

Marriage and Gonorrhea

For a man or a woman, who has once suffered from gonorrhea or syphilis, to enter matrimony, without having secured a competent physician's opinion, is a great responsibility. And a great responsibility rests upon the shoulders of the physician who is called upon to give such an opinion. For, a wrong decision—a wrong decision either way—that is, permission to marry when permission should not have been granted or refusal to give permission when permission should have been granted—may be responsible for much future unhappiness and much disease: disease of the mother and of the offspring. It may even be responsible for death.

There is no easy, short road to a positive opinion. It requires a thorough, painstaking examination at the hands of an experienced physician, one thoroughly familiar with all the modern tests, to tell whether it is safe for a man who once suffered from venereal disease to enter the bonds of matrimony. Sometimes one examination is not sufficient, and several examinations may be necessary;

but, the opinion of a conscientious, experienced physician may be relied upon, and, if all men and women who once suffered from venereal disease would seek for, and be guided by, such an opinion, there would be no cases of marital infection, there would be no children afflicted with gonorrheal ophthalmia, there would be no cases of hereditary syphilis.

I firmly believe that a time will come when all venereal disease will have disappeared from the face of the earth. But, until that time comes, it would be for the benefit of the race and of posterity if people had to present a certificate of freedom from transmissible venereal disease as a prerequisite to a marriage-license. Custom is often more efficient than law, and, if a premarital examination should become a universal custom (and there are indications in this direction), no law will be needed.

When May a Man Who Has Had Gonorrhea Get Married?

When may a man who once had gonorrhea be permitted to marry?

For a man who once suffered from gonorrhea to be pronounced cured and a safe candidate for marriage, the following conditions must be present:

1. There must be no discharge.
2. The urine must be perfectly clear and free from shreds.
3. The secretion from the prostate gland, as obtained by prostatic massage, and from the seminal vesicles, as obtained by "milking," or "stripping," the vesicles, must be free from pus and gonococci. To make sure, it is best to repeat such examination at three different times.
4. There must be neither stricture nor patches in the urethra.
5. What we call the complement-fixation test, which is a blood test for gonorrhea similar to the Wassermann blood-test for syphilis, must be negative.

Referring to conditions 1 and 2, it sometimes happens that the patient has a minute amount of discharge or a few shreds in the urine, and I still permit him to marry; but this is done only after the discharge and shreds have been repeatedly examined and have been found to be catarrhal in character and absolutely free from any gonococci or other germs.

It sometimes happens that a patient comes to me for an examination a few days before the date set for the wedding. I examine him and find that he is not in a safe condition to marry, and, so, advise him to delay the wedding. Sometimes he follows the advice, but in some cases he is unable to do so. He claims the wedding has been arranged, the invitation-cards have been sent out, and to delay the wedding would lead to endless trouble and perhaps scandal. In such cases, I, of course, assume no responsibility; however, I do advise the man to use an antiseptic suppository or some other method that will protect the bride from infection for the time being, while he, the husband, has an opportunity to take treatment until cured. Of the many cases in which I advised this method, I do not know of one in which infection has taken place.

When May a Woman Who Once Had Gonorrhea Be Permitted to Marry?

In the case of a woman, the decision may be harder to reach than in that of a man. Of course, the urine must be clear and the urethra must be normal; however, we cannot insist that there must be no discharge. This, because practically every woman has some slight discharge; even, if not all the time, then at least immediately prior and subsequent to menstruation. Of course, the discharge must be free from gonococci and pus. Also the complement-fixation tests must be negative. But, even so, we cannot be absolutely sure, because gonococci may be hidden in the uterus or in the fallopian tubes.

Here, we have to go a good deal by the history given us. If the woman, during the course of the gonorrhea, had salpingitis, that is, an inflammation of the fallopian tubes, then we can never say positively that she is cured; all we can say, at best, is, Presumably cured. And, further, if she has no pains in the uterine appendages, either spontaneous or on examination, and, if several examinations made within a day or two following menstruation are negative, then we may assume that she is cured. It is important, though, that this examination be made on the last day of menstruation or on the first or second day following; for, there are many cases in which no pus and no gonococci will show in the intermenstrual period, but will appear those particular days, because, if the gonococci are hidden high up, they are likely to come down with the menstrual blood and portions of mucous membrane that are shed during menstruation.

At best, it is a delicate problem, so that where there was the least suspicion that the woman may harbor gonococci I have always advised (as is my custom, to be on the safe side) and directed the woman to use either

an antiseptic suppository or a mild antiseptic douche before coitus. With these precautions adopted, I have never had an accident happen.

The Question of Probable Sterility

Thus far I have considered the problem of marriage from the standpoint of infectivity. But, we know that, besides the effect on the individual, gonorrhea has also a far-reaching influence on the race; in other words, that it is prone to make the subjects—both men and women—sterile. And a candidate for marriage may, and often does, want to know whether, besides being noninfective, he or she also is capable of begetting or having children.

In the case of man, the problem is, fortunately, a very simple one. We can easily obtain a specimen of the man's semen and determine, by means of the microscope, whether it contains spermatozoa or not. If it does contain a normal number of lively, rapidly moving spermatozoa, the man is fertile, regardless of whether he ever had epididymitis or not. If the semen contains no spermatozoa or only a few deformed or lazily moving ones, then he is sterile.

In the case of woman, it is *absolutely* impossible to determine whether the gonorrhea has made her sterile or not; because there is no way of expressing an ovum from the ovary. The woman may not have had any pain or inflammation in the fallopian tubes, and, yet, there may have been sufficient inflammation to close up the orifices of the tubes. On the other hand, she may have had a severe salpingitis on *both sides and, still, be fertile.* Nor is there any way of telling whether the ovaries were so involved in the process as to become incapable of generating healthy ova, or any ova at all. In short, there is absolutely no way of telling whether a woman is sterile or fertile—we can only surmise. And our surmise in this respect is liable to be wrong just as often as right.

While just as many girls marry as do young men, still, in practice, we always shall have to examine an incomparably larger number of male than of female candidates. This is due, not only to the fact that an incomparably larger number of men suffer from venereal disease, but also because very few women will confess to their fiancés that they ever sustained antematrimonial relations and —what is still worse—were infected with venereal disease. This, of course, is owing to our double standard of morality, which looks upon as a trivial or no offense in the man what it condemns as a heinous crime in the woman. I have known hundreds of men who confessed freely to their fiancées that they had had gonorrhea, but I have known only two girls who made a confession of the fact to their future husbands. They got married, however, and lived happily with their husbands ever after.

Marriage and Syphilis

The problem of the syphilitic differs from the problem of the exgonorrheal patient. When a gonorrheal patient is cured, so far as infectivity is concerned, and is not sterile, there is no apprehension as to the offspring. Gonorrhea is not hereditary, and the child of a gonorrheal patient does not differ from the child of a nongonorrheal person. In the case of syphilis, it is different. The patient may be safe so far as infecting the partner is concerned, but, yet, there may be danger for the offspring.

The rules for permitting a man or a woman who once had syphilis to marry, therefore, are different from these applied to the gonorrheal patient. Here are the rules:

1. I would make it an invariable rule that no syphilitic patient should marry or should be permitted to marry before *five* years have elapsed from the day of infection. But the period of time alone is not sufficient; other conditions must be met before we may give a syphilitic patient permission to marry.

2. The man or the woman must have received thorough systematic treatment for at least three years, either constantly or off and on, according to the physician's judgment.

3. For at least one year before the intended marriage, the person must have been absolutely free from any manifestations of syphilis; that is, from any eruptions on the skin, from any mucous patches, swelling in the bones, ulcerations, and so on.

4. Four Wassermann tests, taken at intervals of three months and at a time *when the patient was receiving no specific treatment* must be absolutely negative.

If these four conditions are fully met, then the patient may be permitted to marry.

It is important, however, to state that, in permitting or refusing syphilitic persons to marry, we are guided to a great extent by the fact as to whether they *expect to have children soon or not.*

In the case of a couple who are anxious to have children soon after their marriage, the conditions for our permission must be more severe than when the couple are willing or anxious to use contraceptive measures for

the first years of their married life. For, if a man is free from any skin lesions and from any mucous patches, his wife is safe from infection *as long as she does not become pregnant.* But, if she does get pregnant, she may become infected through the fetus; and, of course, the child also is liable to be syphilitic. Hence, much stricter requirements for syphilitics who expect to become parents are necessary than for those who do not.

In case both the man and the woman are or have been syphilitic, permission to marry may be granted without hesitation, as the danger of infection is absent, but permission to have children must be refused *absolutely* and *unequivocally.* Regardless of the time that may have elapsed from the period of infection, regardless of treatment, regardless of Wassermann tests, the danger to the child is too great if both parents have the syphilitic taint in them. A healthy child *may* be born from two syphilitic parents who have undergone energetic treatment, but we have no right to take the chance. I, at least, never wanted to, nor ever will want to, take such a responsibility.

The Danger of Locomotor Ataxia or Paresis

There is still one more point to consider in dealing with a syphilitic patient. In patients who did not receive energetic treatment from the very beginning of the disease as also in patients whose treatment was only desultory and irregular, we never can guarantee, in spite of lack of external symptoms, in spite of a negative Wassermann reaction, that some trouble may not develop later in life.

What shall we do in such cases and what particularly shall we do if, from a general examination of the patient, we carry away the impression that, while free from the danger of infection, the man is not a good risk? Under these circumstances, we must refuse all personal responsibility, leaving assumption of the responsibility to the prospective wife.

Here is a case in point. About five years ago, a man came to me for examination; he came with his fiancée. He had contracted syphilis ten years previously, received irregular treatment by mouth, off and on. For five years, he had had no symptoms of any kind. He *considered* himself cured, but wanted to know, and his fiancée wanted to know, whether he really were cured. There were no symptoms of any kind and the Wassermann test was negative. Nevertheless, I could not give him a clean bill of health. I noticed what seemed to me a slowness in thinking and just the least bit of hesitation in his speech.

I told the girl (the man was 35, she was 32) that I could not render a definite decision in the matter, that everything might be all right, and then, again, it might not; but, that the question about children she would have to decide definitely, once for all, namely, that she was not to have any children. She was fully satisfied so far as that part was concerned; she said she herself objected to children and did not intend to have any and knew how to take care of herself. All she wanted to know was, whether she was in danger of being infected. I told her, No, but that in my opinion there was some danger of her husband developing general paresis or locomotor ataxia.

The girl had been a teacher for about twelve years, and she was so sick at heart of the work, was so anxious for a home of her own, that she decided to take the risk. And they got married. The marriage remained childless. The man developed general paresis (softening of the brain) three years later and died about a year afterward. The woman, now a widow, I understand, is not sorry for the step she took. This shows what things our social-economic conditions and our moral code will make people do.

Tuberculosis

Tuberculosis, which carries off such a large part of humanity every year, is caused by the well-known bacillus tuberculosis, discovered by Koch. The germ is generally inhaled through the respiratory tract, and most frequently settles in the lungs, giving what is known as pulmonary consumption. However, many other organs and tissues may be affected by tuberculosis.

Tuberculosis used to be considered the hereditary disease *par excellence.* Entire families were carried off by it, and, seeing a tuberculous father or mother and then tuberculous children, it was assumed that the affection had been transmitted to the children by heredity. As a matter of fact, the disease was spread by infection. In former years, little care was exercised about destroying the sputum; the patients would spit indiscriminately on the floor, and the sputum, drying up, would be mixed with the dust and inhaled. Sometimes the children crawling on the floor would ingest the infective material directly.

It is now known that tuberculosis is not a hereditary disease, that is, that the germs are not transmitted by heredity. The weak

constitution, however, which favors the development of tuberculosis, is inherited. And children of tuberculous parents, therefore, must not only be guarded against infection, but must be brought up with special care, so as to strengthen their resistance and overcome the weakened constitution which they inherited.

That a person with an active tuberculous lesion should not get married goes without saying. But, it is a good rule to follow for a tuberculous person not to marry for two or three years, until all tuberculous lesions have been declared healed by a competent physician. As a rule, a tuberculous patient is a poor provider, and that also counts in the advice against marriage. Then sexual intercourse has, as a rule, a strong influence on the development of the disease. Unfortunately the sexual appetite of tuberculous patients is not diminished, but, rather, very frequently heightened; and frequent sexual relations weaken them and hasten the progress of the disease.

As to pregnancy, that has an extremely pernicious effect on the course of tuberculosis, and no tuberculous woman should ever marry. If such a one does marry or if the disease develops after her getting married, means should be given her to prevent her from having children. During the pregnancy, the disease may not seem to be making any progress—occasionally the patient may even seem to improve—but after childbirth the disease makes very rapid strides and the patient may quickly succumb. If precautions are taken against pregnancy, then permission to indulge in sexual relations may be given, provided it is done rarely and moderately.

Heart Disease

Heart disease no longer is considered hereditary. Nevertheless, heart disease, if at all serious, is a contraindication to marriage. First, because the patient's life may be cut off at any time. Second, sexual intercourse is injurious for people having heart disease; it may aggravate the disease or even cause sudden death. Third—and this concerns the woman only—pregnancy has a *very* detrimental effect upon a diseased heart. A heart that, with proper care, might be able to do its work for years, often is suddenly snapped by the extra work put upon it by pregnancy and childbirth. Sometimes a woman with a diseased heart will keep up to the last minute of the delivery of the child and then suddenly will gasp and expire. In the early days of my practice, I saw such a case, and I never have wanted to see another. Women suffering from heart disease of any serious character should not, under any circumstance, be permitted to become pregnant.

Cancer

No man will knowingly marry a woman, and no woman will marry a man, afflicted with cancer. However, this question often comes up in cases where the matrimonial candidates are free from cancer, but where there has been cancer in the family.

Cancer is not a hereditary disease, contrary to the opinions that have prevailed, and, if the matrimonial candidate otherwise is healthy, no hesitation need be felt on the score of heredity. The fear of hereditary transmission of the disease has caused a great deal of mischief and unnecessary anxiety to people. Scientifically conducted investigations and carefully prepared statistics have shown that many diseases formerly considered hereditary are not hereditary in the least degree.

Should it, however, be shown that in one family there were many members who died of cancer, it would indicate that there is some disease or dyscrasia in that family, and the contracting of a marriage with any member of that family would be inadvisable.

Exophthalmic Goiter (Basedow's Disease)

Exophthalmic goiter is a disease characterized by enlargement of the thyroid gland, protrusion of the eyeballs, and rapid beating of the heart. The disease is confined almost exclusively to women, and I should not advise any exophthalmic woman to marry; neither should I advise a man to marry an exophthalmic goiter woman. It is a very annoying disease, and sexual intercourse aggravates all the symptoms, particularly the palpitation of the heart. The children, if not affected by exophthalmic goiter, are liable to be very neurotic.

Simple goiter, that is, enlargement of the thyroid gland (chiefly occurring in certain high mountainous localities, such as Switzerland), is not so strongly dysgenic as is exophthalmic goiter. Still, goiter patients are not good matrimonial risks.

Obesity

Obesity, or excessive stoutness, is an undue development of fat throughout the body. That it is hereditary, that it runs in families, there is no question whatsoever. And, while

with great care as to the diet and by proper exercise obesity may, as a rule, be avoided in those predisposed, it none the less often will develop in spite of all measures taken against it. Some very obese people eat only one-half or less of what some thin people do; but, in the former, everything seems to run to fat.

Obesity must be considered a dysgenic factor. The obese are subject to heart disease, asthma, apoplexy, gallstones, gout, diabetes, constipation; they withstand pneumonia and acute infectious diseases poorly, and they are bad risks when they have to undergo major surgical operations. They also fatigue readily from physical and mental work. (As to the latter, there are remarkable exceptions. Some very obese people can turn out a great amount of work, and are almost indefatigable in their constant activity.) Each case should be considered individually, and with reference to the respective family history. If the obese person comes from a healthy, long lived family and shows no circulatory disturbances, no strong objections can be raised to him or to her. But, as a general proposition, it must be laid down that obesity is a dysgenic factor.

Arteriosclerosis

Arteriosclerosis means hardening of the arteries. All men over fifty are beginning to develop some degree of arteriosclerosis; but, if the process is very gradual, it may be considered normal and is not a danger to life; when, however, it develops rapidly and the blood pressure is of high degree, there is danger of apoplexy. Consequently, arteriosclerosis and blood pressure of high degree must be considered decided bars to marriage.

It must be borne in mind that the sexual act is, in itself, a danger to arteriosclerotics and people with high blood pressure, because it may bring about rupture of a blood-vessel. Married persons who find that they have arteriosclerosis or high blood pressure should abstain from sexual relations altogether or indulge only at rare intervals and moderately.

Gout

A consideration of gout in connection with the question of heredity will show how near-sighted people can be, how they can go on believing a certain thing for centuries without analyzing, until somebody suddenly shows them the absurdity of the thing. Gout was always considered a typical hereditary disease; for it was seen in the grandfathers, fathers, children, grandchildren, and so along. So, certainly, it must be hereditary! It did not come to our doctors' minds to think that perhaps, after all, not heredity is to blame, but simply that the same conditions that produce gout in the ancestors likewise produce it in their descendants.

We know now that gout is caused by excessive eating, excessive drinking, lack of exercise, and faulty elimination. And, since, as a general thing, children lead the same lives as did their fathers, they are likely to develop the same diseases as their fathers did. A poor man who leads an abstemious life doesn't develop gout, and if his children lead the same abstemious lives they do not develop gout. But if they should begin to gorge and live improper lives they would be prone to develop the disease.

The disease, therefore, cannot in any way be considered hereditary. In matrimony, gout in either of the couple is not a desirable quality, but it is not a bar to marriage; and, if the candidate individually is healthy and free from gout, the fact that there was gout in the ancestry should play no role.

Mumps

Mumps is the common name for what is technically called parotitis (or parotiditis). Parotitis is an inflammation of the parotid glands. The parotid glands are situated, one on each side, immediately in front and below the external ear, and they are between one-half and one ounce in weight. They belong to the salivary glands; that is, they manufacture saliva, and each parotid gland has a duct through which it pours the saliva into the mouth. These ducts open opposite the second upper molar teeth.

We might be surprised to be told that these parotid glands can have anything to do with the sex-organs; but there is no other remote organ that bears such a close and rather mysterious relationship with the sex-glands as have the parotids. When the parotid glands, either one or both, are inflamed, the testicles or ovaries also are liable to be attacked by inflammation. The inflammation of the testicles may be so severe as to cause them to shrivel and dry up; or, even when no shrivelling, no atrophy of the testicles occurs, they may be so affected as to become incapable of producing spermatozoa. Moreover, in cases where the testicles of a mumps-patient seemingly were not attacked—that is, where the patient was not aware of any inflammation, having no pain and no other symptoms—the testicles may have become incapable of generating spermatozoa.

Besides the testicles, the prostate gland, the secretion of which is necessary to the fertility of the spermatozoa, may also become affected and atrophied.

It is, therefore, a very common thing for men who had the mumps in their childhood to be found sterile.

As to the sexual power of mumps-patients, that differs. Some patients lose their virility entirely; others remain potent, but become sterile.

The same thing happens to girls attacked by mumps. They may have a severe inflammation of the ovaries (ovaritis or oophoritis) or the inflammation may be so mild as to escape notice. In either case, the girl when grown to womanhood may find herself sterile.

A man who never had any venereal disease, but who has had mumps, should have himself examined for sterility before he gets married. As explained under the caption of "Marriage and Gonorrhea," we can, in the case of a man, easily find out whether he is fertile or sterile. But, in the case of a woman, we can not. Time, necessarily, has to answer that question. In all cases, mumps reduces the chances of fertility, and no man or woman who once had mumps should get married without informing the respective partner of the fact. There should be no concealment before marriage. When the partners to the marriage-contract know of the facts, they can then decide as to whether or not the marriage is desirable to them.

[*To be concluded.*]

Some Surgical Experiences

With Practical Hints

By Joseph E. G. Waddington, M. D., C. M., Detroit, Michigan

In the following, I shall endeavor, by the history of two of my cases, to show what difficulties a physician and surgeon may encounter in his practice; also, how one may meet such obstacles. In addition, I venture to offer a few practical surgical suggestions.

The first case is that of a woman, whose condition primarily was diagnosed incorrectly and eventually became impossible to be accurately diagnosed, except, finally, by an operation. This woman, an American, 34 years of age, 5 feet 3 inches in height, was first seen by me on August 30, 1913. She gave a history of one normal pregnancy nine years ago, with no subsequent signs of another until August 15, two weeks ago, when the menstruation due failed to occur. Three or four days later, she obtained some medicine from her family physician, which quickly induced severe uterine colic, while two days after that she was curetted, upon a diagnosis of "impending abortion."

An eye-witness of this curettage subsequently informed me that she failed to see anything removed, aside from a little blood. The woman felt quite comfortable during the week immediately succeeding this operation. At the expiration of that time, while she still was confined in bed, pain, limited to the lower right abdominal quadrant, and accompanied by nausea, again set in, being worse at night. The pain persisting and seeming to increase in strength and extent, despite her physician's daily assurance that she soon would be all right, I was called and assumed charge of the case.

I found the patient considerably emaciated she having been unable to retain even fluids during the past week. Her temperature was 98.5° F. (under the tongue), the pulse ran 90. She was equally sensitive to pressure upon the lower left and right abdominal quadrants; there was no tympanites; the tongue was thickly coated, grayish yellow; the kidneys functioned normally. Vaginal examination disclosed an immovable uterus, apparently surrounded on all sides by inflammatory exudate, impossible of definite anatomical location, exquisitively sensitive to pressure, more especially on the right side.

What Caused the Trouble?

From the history and the present examination, one, naturally, was inclined to diagnose pelvic cellulitis or else pyosalpinx. Appendicitis was considered, but the vomiting ceased after the first day of my attention; also, the pain supervened only at night, and this was completely controlled by a hypodermic injection of ¼ grain of morphine sulphate, until the next evening. Both lower abdominal quadrants at first were apparently equally sensitive to firm pressure; although, as already stated, the nocturnal pain was localized

in the lower right, but not distinctly at McBurney's point. Vaginal douches invariably caused considerable diffuse pain and slight nausea, accordingly, they were discontinued after the first two or three days. A trained nurse was being kept in constant attendance, day and night, until the patient's final recovery.

The temperature, after the first day of my assuming charge, ranged from 99° to 100° F. in the evening, down to 98 degrees in the morning, although more usually standing at 98.5 to 99. She was excessively constipated. Enemas occasioned extreme distress, and eventual copious evacuations only aggravated that symptom for the time being; although much relief would be experienced an hour or two afterward. Great difficulty was experienced in inserting the rectal pipe, and the patient was unable to retain more than a pint of fluid. At the expiration of seven days, vomiting had entirely ceased, the patient had been taking considerable nourishment, and she felt slightly stronger, although still extremely weak. Pain still returned regularly every night, requiring, despite all efforts, a hypodermic dose of ¼ grain of morphine for its alleviation. During the last two days, the bowels had been quite loose, although not so intensely painful. The temperature ran a regular quotidian course of 98° or 99° to 99.1° or 100.1° F.

On Saturday, September 6, at 1:30 p. m., the patient was transferred to the Samaritan Hospital, and that same night I operated upon her, under ether anesthesia.

The vaginal vault, it was found, was so obliterated, anatomically, by inflammatory exudate and the os uteri immovably fixed and drawn above and behind the os pubis, that we abandoned our first intention of operating vaginally. We did, however, with considerable difficulty, succeed in passing a sound, which disclosed a normal uterine depth. Through a median abdominal incision, the intestines were revealed extensively adherent among themselves and to the uterus.

The appendix, which was stretched out to a length of five inches, was much thickened and inflamed and intimately adherent to the uterine fundus and to neighboring coils of intestines. The appendix was removed in its entirety and the utero-intestinal adhesions on the right side were dissected loose; but the adhesions of intestine to intestine were not disturbed.

The patient exhibiting signs of much shock, we were tempted to desist, at this stage; however, a hypodermic dose of lobelia (Lloyd's subculoyd, 2 Cc.) was administered, after which we proceeded to investigate the left side, which we found entirely blocked by a large mass continuous with the uterus and adherent to the intestines posteriorly and externally. Upon finally achieving a cleavage-point of separation near the uterine wall, more than a quart of a thick tar-like fluid oozed out. This evacuation left a corresponding cavity lined with intestinal and uterine adhesions – which it was not good surgery to disturb. The cavity was mopped out with moist gauze and finally flushed out with saline solution. With some difficulty, we managed to make an opening between the floor of the cavity and the vagina. Two strips of iodoform-gauze one yard wide now were packed, by way of the cavity, one extending toward and into the vagina, and the other through the abdomen. Each strip was entirely separate and distinct from the other, of course, communicating with each other only within the walls of the cavity.

The patient, after being one and a half hours on the table, was now returned to her bed, in an extremely shocked state, with a pulse of 144, and skin clammy. The Murphy drip was immediately put in operation, but the water could not be retained. Then 5 ounces of saline solution containing 20 drops of adrenalin-solution was given per rectum, and this was partially retained, this enema being repeated every four hours for the first twenty-four. Cactoid, 1-30 grain, was given hypodermically every three hours, but reducing the dose to four times a day after the first day, and finally giving it internally.. Hot-water-bags were packed around all available points of the body, and at midnight the respiration was 26, the pulse 130, skin no longer so clammy. She was nauseated only once since being returned to bed. Catheterization, twelve hours afterward, procured 7 ounces of urine.

On the day after the operation, at 2 a. m., the pulse was 132, temperature 101 degrees, respiration 28. At 8 p. m. the pulse was 116, temperature (axilla) 99.6 degrees. The bowels moved on September 8, and the patient also urinated freely and involuntarily. Convalescence was slow, being interrupted by the patient's getting out of bed too soon, and also by supervening hepatic hyperemia and general jaundice. Less than six months afterward, I met this woman at a Masonic ball and had the pleasure of "hesitating" with her. She then weighed 140 pounds and gave no appearance, objective or subjective, of having so recently "hesitated" with death,

Here is the other case. A farmer had suffered for years from "gallstone-colic." He went to Ann Arbor, where a well known professor diagnosed the condition as such. Finally, some three years ago, he came into my hands while he was suffering from an apparently typical attack of gallstone-colic. He experienced intermittent pains of extreme severity in the region of the gall-bladder, which latter was acutely sensitive to pressure. There was slight yellowing of the conjunctiva, also, nausea and constipation, and the evacuations, when any, were slight and clay-colored.

I assured the patient that the condition very much resembled that of gallstone trouble, but that no one, no matter how experienced or clever, could so diagnose with absolute accuracy, unless gallstones had been evacuated or observed radiographically – neither of which had occurred. However, I also assured the patient that an operation certainly was indicated, as there was something radically wrong in the gall-bladder region.

At operation, an incision was made vertically downward from the ninth costal cartilage through the right semilunar line. At first the gall-bladder could not be discovered, but finally was revealed hiding itself unobtrusively high up behind the rib. The viscus was slightly below normal size, walls not thickened, free from gallstones or inspissated bile, in fact, apparently disappointingly healthy. Further manipulation eventually revealed a nipple-like constriction of the fundus of the gall-bladder. There was absolutely no other sign of adhesions or inflammation, biliary or hepatic, but simply a thin adhering band, just like a rubber constricting the fundus into a nipple-like projection to the size of ¾ of an inch. So constricted was this part that after several incisions into it the fundus still retained this nipple-like shape. Nothing more, however, was done. The abdominal incision was closed, without drainage-tube insertion, and it healed uneventfully. The patient felt so well after the third day that he continually scared his nurse by his exuberant activities. Time can vouch as to the patient's continued good health and lack of subsequent attacks of "gallstone-colic."

Practical Hints

In using a local anesthetic, whether for major or minor work, permit plenty of time to elapse before starting operative procedure. Quite a number of operators ignore this necessary and comfortable factor of time, apparently relying more upon physical strength to control their struggling, remonstrating patients than upon the hurriedly administered local anesthetic.

In respiratory shock, hypodermic lobelia (Lloyd's) 3 mils (Cc.) repeated as required, is the stimulant *par excellence*. Do not, as is often done, administer strychnine. Your patient has ample time to die before it can possibly act.

In administering mercury salicyl-arsenate, iron citrate, or similar preparations, hypodermically, use a 2-mil (Cc.) Luer glass syringe with a 1¼-inch needle, sterilizing the instrument and the patient's skin with alcohol. Insert the needle full-length into the muscle, and little or no pain will be complained of subsequent to the injection.

In removing adenoids, especially in children with high and narrow palate, the Gottstein curette, with its numerous modifications, will not be found an instrument for precisional removal. A modified Lœwenberg forceps kept well sharpened and always introduced and operated along an examining and guarding forefinger, will vouchsafe the best results.

Removal of turbinates, inferior and middle, is accomplished most satisfactorily with a Jarvis snare and a modified Struycken's nasal alligator forceps; the latter being first introduced, biting out a piece of bone on the upper posterior aspect of the turbinate, so as to afford a hold for the subsequently passed snare. A 10-percent solution of cocaine in 1 : 5000 adrenalin-solution, applied for half an hour, makes nasal operations painless and bloodless.

In removing tonsils, whether you elect to use scissors, knife, snare or guillotine, it is, above all things, indispensable for quick and accurate work to have a forceps that will easily catch and retain the tonsil and which can be released from the operator's grasp without simultaneously releasing the tonsil.

As a wet dressing for wounds and infections of every description, great or small, the following is inexpensive, cooling, antiseptic, and healing; it is to be kept constantly applied on gauze:

Alcohol, (95-percent) . . . . . 1 part
Carbolic-acid solution (3-percent) . . 1 part
Boric-acid solution (saturated) . . . 6 parts

I have found nothing better as a dusting powder for chancres and chancroids than a mixture of vegetable charcoal, 1 part, and calomel, 9 parts. The charcoal, besides acting psychologically in these cases, is deodorant and antiseptic.

Pituitrin, one half ampule given hypodermically—repeated, if necessary, though rarely required, in two hours—more often than not obviates the use of a catheter in postoperative and obstetrical retention of urine.

Always, when possible, administer to your operative cases, major and minor (though more especially major), a cathartic thirty-six hours prior to operating. In this way patients get a much needed night's rest and go to the operating-table in considerably better condition than when the cathartic, as too often happens, is administered twelve hours or less prior to their surgical ordeal.

In conclusion, never amputate, no matter how badly disorganized a hand or foot or portion thereof may appear, until with wet dressings and time you have assured yourself —as well as the patient—that restoration cannot be accomplished. A day or two's time while possibly eventuating into amputation, quite often saves at least some tissue with concomitant bone that may prove of immeasurable benefit to their owner.

Venereal Infections of Animals and Their Effects*

By G. A. Roberts, D. V. M., Raleigh, North Carolina

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OUR own observations in various parts of the United States as well as the study of numerous reports issued in this country and abroad, during several years, have indicated a rapid and extensive increase in the number of abortions occurring in all classes of domestic animals—notably in horses, cattle, sheep and swine—while, moreover, these accidents by no means are rare in the human family. Nor is this all, for, with the abortions, there likewise have been many cases of retained afterbirths in cattle (owing to the peculiar anatomical arrangement of those parts), besides many more cases of sterility in every class of the animals—a fact again not uncommon among women. Also, where the abortions have been most numerous in cattle, a granular inflammation of the mucous membrane of the vulva and sometimes also of the vagina, has invariably appeared. Consequently, the fact that, where any of the troubles named exist, the others usually are present also has led investigators to look for a common cause for these phenomena.

The evidence thus far gathered points strongly to the possibility of a specific organism—the bacillus of Bang, or bacillus abortus, as the agent responsible in cattle for most abortions, both early and late, including premature births, still-births, and birth of weaklings; also for all retained afterbirths as well as for many cases of inflammation of the uterus not attended by visible signs of retained afterbirths, besides a large percentage of sterilities, both temporary and permanent.

The part played, if any, by the pathogenic bacillus named, in the granular venereal disease, certain udder diseases, and the like, has not been determined; but, in any event, the term "contagious abortion" is very inappropriate to indicate the totality of the effects of this infection. Many animals venereally infected neither abort nor show any external evidence of infection, while, on the other hand, all of the conditions mentioned may result from it.

Formerly it was thought that the causes for abortion in domestic animals were almost as numerous as are the abortions themselves, such, for instance, as fright, falls, injuries, green or moldy feed, cottonseed-meal, purgatives, and the like; also, the socalled abortifacients (as, pituitrin, ergot, gossypium) had a like reputation, but none of these agents produce such results when desired, unless by coincidence the mouth of the uterus is opened mechanically as the result of uterine infection. In this way, some of the agents mentioned may aid in precipitating an abortion, but it is doubtful whether any one by itself is a sufficient cause.

If one will visit an abattoir or large slaughter-house and observe the number of pregnant cows killed, after witnessing the rough and excitable handling of these animals in loading, shipping, unloading, slaughtering, and the like, he can appreciate how other factors besides fright and injuries must intervene for causing abortion. Again, if

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one will study the anatomy and physiology of the parts involved, he will note the wonderful provision nature has made for avoiding premature expulsion of the embryo or fetus from the uterus. He will, likewise, observe the difficulty in accounting for this accident on grounds other than infection or artificial opening of the mouth of the uterus. Abortions can readily be accounted for, however, by these latter factors.

The Bacillus Abortus the Real Cause. The Diagnosis

The bacillus abortus may be found in the bodies of aborted fetuses and in other infected ones, also in milk from many of the infected cows and in the abortion exudate within the uterus. Schroeder and Cotton found this organism in nearly 14 percent of 217 samples of milk sold in the Washington, (D. C.) market, and in 31 percent of samples from 35 cows in one herd.

In order that abortion will occur, however, the organism probably must enter the uterus. It may get there possibly through the circulation of the heifer infected prenatally, or from contaminated raw milk, or through the vaginal route at the time or before conception occurs. Even when lodged here, however, it may not be active enough or be specifically located so as to cause sufficient alterations near the mouth of the uterus to allow expulsion of the fetus.

The histories of many herds show as high as 50 percent or more of heifers aborting during their first pregnancy, and often 50 percent of all abortions in the herd occur during first pregnancies. In most instances, the infected cow shows a growing tolerance, so that there is less likelihood of aborting the second time, much less the third and rarely the fourth time, although they continue to be carriers of the infection. The yearly number of abortions in many herds may be quite variable. In some years, there may be no abortions or but very few; the next year, all pregnant cattle may abort as if overtaken by a storm-wave. The services of some bulls seem to be attended by more abortions than those of others, indicating a more virulent infection in some instances.

The Diagnosis of this Infection

The recognition or diagnosis of this infection in a cow or herd is, as a general thing, overlooked unless numerous abortions occur. As above indicated, however, many infected animals may never or do not always abort. This lack of evidence of infection can readily be illustrated in other infectious diseases, as, for example, tuberculosis, especially in cattle, where the infection may exist for a long time without any clinical symptoms showing.

As yet, no satisfactory method for recognizing all infected cattle has been suggested, although often the fact can be determined by subjecting the blood-serum of suspected cattle to biological tests, the agglutination and the complement-fixation tests, for instance. If these tests are repeated at frequent intervals, most cases of venereal infection can be detected sooner or later.

Retained afterbirths are common only in cattle, because of the peculiar anatomical connections between the maternal and the fetal placentas. If abortions occur before about the fifth month of pregnancy, there will be little or no retention, because of the slight development of the villous projections on the fetal placenta. On the other hand, the longer the fetus is carried, the more developed the villi, and, with the resultant inflammatory products of the infection, the greater will be the retention.

Sterility may be owing to other causes than this infection; but investigators both in this country and abroad estimate 90 percent or more of such to be the result of venereal infection. In many herds, the losses are much greater from sterility than those resulting from abortions or retained afterbirths. The total losses to the cattle industry from this infection, are not known and are difficult or impossible to determine, but it is perhaps safe to say that the losses in dairy-herds are greater than from any other single infection.

The alterations resulting in sterility most often occur in the ovary, the uterus or vagina. In many cases of sterility, it is observed that a persistent yellow body (corpus luteum) exists in the ovary, which probably produces an internal secretion inhibiting egg production (ovulation). Again, many of these yellow bodies are found in a state of cystic degeneration, which frequently terminates in conspicuous cysts. Such animals nearly always are more or less continually in heat (nymphomaniacs) but rarely conceive. Sterility of entire males is of rare occurrence.

The mucous membrane of the uterus may be so altered as to prevent implantation upon it of the fertilized ovum or it may be dislodged and expelled at a very early period. This latter accident may not be discovered by the herdsman, and thus, the case often be taken for one of sterility rather than of abortion. As a matter of fact, supposedly sterile cows are early aborters. The mucous membrane of

the vagina may likewise be altered or at least the secretions from it, so as to destroy the vitality of the male element. There is very little sterility among the male animals but many dairy-men report that it is difficult to get full 50 percent of their cows with calf, and some report as high as 75 percent or even more.

Investigations as to Horses and Swine

A personal investigation was made the past year of 50 herds in North Carolina, numbering altogether 1700 head of cattle. They were located at twenty-five points between the mountains and the coast. The results were similar to those obtained from like investigations in other states and countries, namely: that few herds are free from venereal infection. Laboratory tests were made of 203 samples of blood from cattle. The result was, 65 percent positive, 17 percent negative, and 18 percent suspicious; making 83 percent of possible infection.

For comparison of a similar infection in the horse, the following history was obtained of the service of one stallion. During the year 1914, this horse was bred to 113 mares. Of these mares 65 became pregnant, and 6 of them were know to have aborted, and it is possible that others did also. This number makes nearly 10 percent abortions. Some foals were born dead, others lived only a short time. Of the 113 mares, 44 were served two or more times and 4 of them were bred numerous times during the summer and fall, without result.

Likewise, observations and inquiries indicate similar trouble in hogs. The following letter was recently referred to the veterinary department of the Experiment Station: "I have had trouble with my hogs for more than a year. I have changed both sexes of my stock several times. They have free range at pasture, but my sows have trouble with their pigs. Some of them abort their pigs, others give birth to dead pigs, and the pigs of others die when a few days or weeks old. Many sows I cannot get to 'catch' at all. I bought a male hog from the western part of the state some time ago and have had these troubles ever since."

Suggestions as to the Remedy

Treatment for this infection and its manifold results is far from satisfactory, still, a few valuable facts have been determined both as to the fallacy of past suggestions and as to the agencies to be employed in the future. It may safely be stated that, since the infection is so widespread and in view of the difficulty, frequently, of recognizing the infection, it will be impossible to depend on purchasing only animals free from infection. It cannot, therefore, be eradicated by simply disposing of or isolating all aborting animals. Neither can the disease be controlled or eradicated by the use of the formerly advocated specifics—carbolic acid and methylene-blue—administered as previously directed. Its control will depend largely upon a knowledge of the sources of infection and other characteristics of the disease.

In the first place, it must be borne in mind that the infection may occur in the animal before birth or else after birth through the ingestion of contaminated raw milk or, also, through service by an infected male. Again, it must be borne in mind that abortions are usually confined to the first and second pregnancies and that after aborting once or twice most of the animals do not usually do so again, which may be explained by assuming an acquired tolerance for the infection.

With our present knowledge, the control or partial control of abortions, retained afterbirths, and many of the sterilities will depend upon diligent flushings of the vagina of the female and of the sheath of the male with mild antiseptics. The one-time reputation of the once popular "yeast-culture" treatment for sterility was due probably to its antiseptic or neutralizing effect. Other agents, such as milk curdled by means of lactic-acid organism, dilution of Lugol's solution of ½-percent strength, and dilution of lysol of ¾-percent strength have been recently advocated for the same purposes.

Diseases of the ovaries, however, can not be corrected through vaginal douches or by internal administration of drugs. We have, apparently, obtained some good results—and others have made like reports—from surgical measures. These may consist, where only one ovary is involved, in removing the diseased ovary or, where one or both are affected, in manipulating and massaging the affected ovary through the rectum. This manipulation may effect the forcing of a superficially located persistent corpus luteum from the ovary, or the rupture of a thin-walled cyst, or else the massaging may aid nature in making or hastening repair. If the animal remains sterile, following a reasonable number of treatments to correct the specific cause for the barrenness, then she should be disposed of for beef.

Nonoperative Gynecology

By William Rittenhouse, M. D., Chicago, Illinois

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EDITORIAL NOTE.—This is the third in the series of articles upon nonoperative gynecology which Professor Rittenhouse is contributing to this journal. This is a topic in which every general practitioner is interested; therefore we believe that every succeeding instalment of this series will be eagerly welcomed by every reader of this journal. Professor Rittenhouse will be glad to answer any questions, and we hope that the series may bring out many comments.

[*Continued from the August issue, page 658*]

Cervical Cysts and Tumors

THE cervical cysts and tumors which I shall here discuss do not include those which require definite surgical treatment, such as fibroids and cancers, but only those that can readily be treated in ordinary office practice.

Nabothian Cysts

In many cases of endocervicitis, the ducts of the cervical glands have a tendency to become obstructed. They then become distended with secretion, and in that condition are known as ovula of Naboth. They appear as little globular bodies on the cervix, at the margin of the os externum. In a given case, one or several may be present and they may vary in size from that of a pinhead to a marble. In color, they usually are whitish. Sometimes, when long neglected, they break down and an ulcerative condition supervenes, which may strikingly resemble cancer of the cervix uteri. I had such a case last year.

The patient in question was past 60 and had lost a sister from uterine cancer. She had observed for some time an occasional stain of blood from the vagina and had more or less backache. She had been examined by a physician, who pronounced it cancer and advised immediate hysterectomy. She consulted me for a final decision. There was no odor to the discharge, and that, in addition to the other fact that the appearance was not entirely characteristic of cancer, led me to offer her a ray of hope. I suggested that she allow me to treat her for two weeks, when I would give her a final answer. She gladly caught at the straw like the proverbial drowning man.

As there was a good deal of endocervical catarrh, I applied tincture of iron to the interior of the canal. I then applied tincture of iodine to the erosion around the os externum; also prescribed a hot boric-acid vaginal douche twice a day. I ordered her to report in four days. At her first return visit, the improvement was so marked that I no longer feared cancer. After two months' treatment, the cure was complete and it has remained so.

No doubt many physicians would, in such a case, consider it wiser to remove the uterus, so as to be on the safe side in case it was incipient cancer. But would that really be taking the safe side? Hysterectomy in a woman of 60 is not a trifling operation—indeed, it never is. Had it been cancer, of course, delay would have been undesirable; but, then, a delay of two weeks would have made little difference as to the prognosis and was less important than the possibility of operating upon a wrong diagnosis.

It is seldom, however, that these Nabothian cysts assume any serious importance as in the above case. Usually all that is required is, to incise them and apply tincture of iodine. If they stand out sufficiently, it is well to clip off the top with small curved scissors. Then the iodine is more likely to get inside of them and cause their obliteration. In any case, though, they frequently return.

Cervical Polypi

A polypus attached within the uterine cavity commonly requires for its removal a surgical operation under anesthesia. But, if the pedicle is attached in the cervical canal, its removal is usually so simple that it can scarcely be dignified with the name of operation.

As a rule, the diagnosis presents no difficulty. The new growth is usually pear-shaped, the narrow pedicle answering to the stem of the pear. The surface is smooth and shiny, paler than normal mucous membrane, in fact, often has a jelly-like appearance. An important diagnostic point is, that it is insensitive. The true polypus has no nerve supply.

When the attachment is high up in the cervical canal, it is not always possible to determine whether it is in the canal or in the uterine cavity. The polypus, appears, according to its size, either at the os, or protrudes into the vagina. Very large ones have been known to protrude from the vulva.

In making a diagnosis, it should be borne in mind that a uterine polypus gives rise to more symptoms than does one with a cervical attachment. There is more pain, as the uterus makes efforts at expulsion, and there is menorrhagia or metrorrhagia. A cervical polypus often produces virtually no symptoms.

In deciding upon the best method of removal of a given polypus, something depends upon its size and point of attachment. Of course, the ideal way of disposing of a polypus is, to sever its pedicle close to its base of attachment and then canterize the base, so as to discourage a recurrence. But this procedure is not always possible. I generally employ a piano-wire snare or else a pair of long-handled, short-bladed scissors curved on the flat.

The stem of a polypus is sometimes very tough, so that cutting it off with scissors is not an easy matter. I recall one case in which I first broke a snare and then failed to sever the stem with the scissors. Finally I succeeded with the scissors, by cutting about an inch from the point of attachment, where the neoplasm was softer. This left quite a stump protruding from the os and I advised the patient to return in a week or two for completion of the operation. In the meantime, I provided myself with a stronger and sharper pair of scissors. The woman did not return, but two years later, when I happened to meet her, she informed me, in reply to my inquiry, that the thing had given her no further trouble and for that reason she had not returned for treatment. Eight years have now elapsed and her health is perfect. I have had no opportunity for examining her in that time.

This case would seem to prove that the tendency of a polypus to recur, unless its base is destroyed, is not as great as is generally believed. Other cases of mine confirm this. So, it has become my custom, when a polypus is in a difficult location, to sever it as near to the base as possible and then keep the stump under observation for some weeks or months. I find that in some instances the stump shrivels up, in others it remains stationary, while in still others it goes on growing. In the latter, I make the second removal as thorough as possible and, if the location permits it, cauterize the base. For this purpose, I prefer fuming nitric acid. Of course, this should not be attempted except in locations where the acid can be prevented from spreading to healthy tissue.

Occasionally we meet polyps that vary more or less from the ordinary type. Two years ago, a lady who is nearing the menopause consulted me for a vaginal growth which she said had twice protruded from the vagina, though ordinarily remaining within. I found a polypoid growth as large as a small Bartlett pear, but much softer than usual and pinker in color. I set a date for its removal, but before the time came the woman sent me word that the growth had burst and was quite small. She stated that what had escaped was jelly-like, or ropy.

On examination, I found a collapsed and empty cyst attached to the cervix at the os externum. I cut it off close to its base, where it proved to be vascular enough to cause considerable hemorrhage. I still examine the woman about once in three or four months, but up to the present time there has been no return of the growth. The cervix does not look entirely normal, and I am keeping in mind the possibility of the development of a malignant growth.

One of the most decided variations from the ordinary type of polypus that I have ever seen came under my notice a few months ago and is interesting, not only because of its type, but because of its history. Indeed, I am not quite sure that I am correct in calling it a polypus, and do so only because I know of no other form of neoplasm that it so nearly resembled.

The patient is about 30 and I have known her from infancy. When she was a little girl of 7, I was called to treat her for gonorrhea. She had been infected by a boy of 15—a relative who was visiting the family. So far as appearance went, she recovered completely; but I think it is pretty generally conceded that many cases of gonorrhea in both of the sexes are not fully cured and that the infection may lie dormant for an indefinite number of years. In this case, it seems probable to me that the condition which I found in the cervix and the growth which I am about to describe had their original cause in the old infection, although this had long ago lost its gonorrheal character.

When this woman consulted me last winter, she had been married about six months, during which time she had enjoyed good health, but had not become pregnant. She stated that sexual intercourse was always followed by a flow resembling menstruation, for a day or so.

I found protruding from the cervix a little flat growth about an inch in length, half an inch in breadth and an eighth of an inch in thickness. The cervical canal was relaxed,

eroded, and catarrhal, although there was very little of the tough, glairy mucus that is so characteristic of endocervicitis. The growth was attached quite near to the os externum. It was a grayish-purple color, insensitive, and bled at the slightest touch; it resembled exactly the purplish fungus-like tissue found in some cases of scurvy and growing out from between the gums and the teeth. (I am aware that this is not a very illuminating comparison, because in our day, fortunately, there are many physicians who have never seen a case of scurvy.)

I clipped off the growth as close to the base as possible. It bled very freely and persistently, for so small a tumor, and it required the prolonged application of cotton saturated with tincture of iron to control the hemorrhage. I made no other applications at that sitting. A week later, the woman reported having had no return of the bleeding. The stump had shriveled and I treated the cervix with tincture of iron followed by tincture of iodine. This treatment was repeated weekly for five or six times, after which the condition of the cervix was normal.

This case was new to me. I have never seen anything quite like it. I feel that such a case ought to be kept under observation for several years, if possible.

[*To be continued.*]

Treatment of Ivy Poisoning

By J. M. French, Milford, Massachusetts

EDITORIAL NOTE.—Doctor French makes a novel suggestion—one which will touch the fancy of every homeopathic practitioner but may not appeal particularly to the regular; at any rate, this paper carries a therapeutic suggestion which is worth thinking over.

MOST doctors who live in the country have to treat a good many cases of ivy poisoning during the summer months and they are fortunate if they do not suffer from it in their own persons. For myself, I have always been somewhat susceptible to it and used to suffer from it frequently in my boyhood. My most serious experience of the kind, however, was about fourteen years ago, when I was badly poisoned by rhus venenata, or poison-sumach, which is much more virulent than the ivy (or rhus tox).

One day I was riding with my wife, when I stopped to pick what seemed to be a beautiful bouquet. It was in the fall of the year and the leaves were of a bright-red color, while the berries hung in grayish-white clusters, the whole making a handsome picture. I did not at the time recognize the shrub nor suspect its poisonous nature. I picked a large bunch of the bright leaves and berries and at home put them in a vase in my front hall. It was about twenty-four hours afterward when I began to feel itching on my wrists and soon observed vesicles forming, the result of scratching. Then I began to suspect the cause of the trouble and set out to look up the nature of the berries I had picked; with the result that I learned a lesson in botany not soon to be forgotten.

The itching began on my wrists, my hands having been covered with driving-gloves, and gradually spread until a large part of my body was affected. It also affected my general health, there being fever, headache, and general indisposition, although at no time was I confined to bed or wholly incapacitated from attending to my duties. I tried about a dozen different remedies, selecting those which were most highly vouched for and most of which I previously had prescribed for my patients, with supposedly good results. Not one of these, however, did me any appreciable good.

Perhaps it is a good thing for a doctor to have a chance to try his medicines on himself once in a while. After the first week, there was a gradual decline in the severity of the symptoms, but I did not give any credit for this to the remedies used, at least not to those which I undertook with the most confidence. The first application which gave me any noticeable relief was campho-phenique, or carbolized camphor. This had a temporary cooling effect, but the odor was unpleasant and the action on the skin seemed to me, on the whole, unfavorable. By this time, I had come to the conclusion that no specific remedy could have any effect at this stage of the trouble, but that I must rely wholly on general principles. Ointments did no good, though at a later stage they might have been beneficial.

At about this time, I tried the following lotion, from which I got marked, though only temporary relief: Zinc oxide, ½ ounce;

glycerin, 2 drams; carbolic acid, ½ dram; limewater, 8 ounces. By applying this (after shaking) with a soft cloth or wad of cotton and leaving the powder to dry on, I got an hour or two of perfect relief. One other application gave me even more prompt and complete relief than this, and that was, hot saleratus water. In order to get the benefit of the latter, the parts must be immersed in the solution for a minute or more, and the water must be as hot as can be borne. The immediate effect was, to intensely increase the itching while the parts are immersed, but this was followed by several hours of perfect relief.

This experience led me to believe that no application is capable of antidoting the effect of the poison of the rhus, after once it had been absorbed into the skin and produced its effect. There remained the undoubted fact, that if properly treated when the volatile oil constituting the poison first comes in contact with the skin, this oil may be dissolved or antidoted and removed.

The Prophylactic Cleanoff Treatment

In the July, 1916, number of *The Healthy Home*, a popular health-journal published in Athol, Massachusetts, I gave a description of the method which seemed to me the best for this purpose. This is substantially as follows:

As soon as possible after you know you have handled or touched poison-ivy, you should do these three things:

1. Wet the affected parts well with alcohol, by rubbing them gently with absorbent cotton soaked in alcohol. The object of this is, to dissolve the volatile oil from the rhus, which conveys the poison.

2. Scrub the parts thoroughly with strong soapsuds, using a stiff bristle-brush and plenty of water. In this way, you will wash out and get rid of every portion of the noxious oil, or very nearly all of it.

3. Soak the parts for several minutes in a 2-percent solution of potassium permanganate. This is for the purpose of antidoting any portion of the oil which may still remain on or in the skin.

By doing these three things, the poisonous symptoms will be either prevented or aborted.

I thought this was a pretty safe remedy. But in the next number of *The Healthy Home* (Aug., 1916), there appeared a reply to my recommendation, from a good friend of mine (a homeopathic practitioner who once was my neighbor, but now dates his letter at Lewiston, Me.), in which he counters with the following:

"Some thirteen years ago, there lived almost directly across the street from Doctor French a man who was foreman of the construction-gang of the Milford and Uxbridge Street Railway Company. This force consisted of about 150 Italians. Every summer, he told the writer, the efficiency of his force was seriously impaired by an average of at least 10 or 15 men being off duty daily as a result of ivy poisoning. Every man of them feared the ivy as he would an evil spirit. He was told that he need have no more trouble from this source.

" 'How can I avoid it?' he asked.

"The answer was, 'Teach them to eat it.'

"The specific instructions were as follows: When you go where you see the ivy growing, look for a tiny young leaf; pick it and eat it; then go about your business and forget it.

"Some two years later, the foreman of this gang of workmen was asked one summer's day, 'How many men are off duty today as a result of ivy poisoning?' His answer was, 'Not one.'

" 'How do you avoid it?' he was asked. 'Every mother's son of them eats it,' he replied. The writer has asked him the same question at intervals of two or three years, receiving the same reply, the last time being about two years ago."

Being a good deal interested in this subject and having a high regard for my homeopathic brother, I thought this was worth following up. And, so, this very afternoon on which I am writing this, while traveling on the Milford and Uxbridge Street Railway and chancing to meet thereon the foreman above spoken of, I engaged him in conversation, told him of the two papers referred to and asked him for his version of the matter.

Without any hesitation, the man gave me a substantial confirmation of the statements of Doctor Coffin, the physician whom I have quoted. In somewhat more detail, he told me how he himself had followed the doctor's directions when suffering from the effects of the poison, and thus had experienced prompt and lasting relief. He took but one of the three leaflets of the rhus, chewed it up and swallowed the juice. It cured him. His men followed suit, with the same result. One man was a doubting Thomas, and it was hard to persuade him to eat the leaves — but he did and was cured.

Now, brothers of THE CLINIC, here is something to think of. This foreman was no homeopathist, and had never even employed a homeopathic physician until he met Doctor Coffin, and probably never has since. He

is simply a construction-foreman, a rough and ready sort of a fellow, but with plenty of intelligence and common sense, not at all a good subject for hypnotism or Christian Science. And he confirms what my homeopathic friend has said, that eating a leaflet of green poison-ivy will save one from being poisoned by handling it, and also will cure the symptoms after they have been developed. What say you, brother doctors? Don't sneer at it as the impractical vision of a theorist. Try it! Then report what you have observed.

[A few years ago we should have thought Doctor French's suggestion for ivy poisoning an example of "blatant homeopathy." Now, we turn to our studies of artificial immunity and try to explain the phenomenon that he describes. We know that bacterial diseases are cured by injections of killed bacteria causing them; and we know that hay fever resulting from poisoning with the pollen of certain plants is cured by injection of extracts of these pollens. Why is it not just as rational to believe that the poison-ivy disease may be cured by taking poison-ivy leaf internally? Doctor Duncan asserts similar results from his autotherapy. We put it up to our readers as a good subject for research.—Ed.]

Autumnal Fevers

By William F. Waugh, A. M., M. D., Chicago and Muskegon

PRESENT indications point to an unusual prevalence of typhoid fever during the fall season. All over the country there are reported outbreaks of this malady, even as early as in July; thus indicating a wide dissemination of the cause as also of its exceptional virulence. At the time of writing Memphis has a visitation so serious that every cautious practician is employing the prophylactic serum in his own family as well as in his practice. Inasmuch as the water supplied in that city unquestionably is safe, this outbreak forcibly directs attention to that other most likely source of infection—the typhoid-fly. Moral: The serum and the swatter ought to save many a valuable life if utilized without stint.

However, desirable as it may be to exterminate the flies, this is but a paltry expedient at best. What is one fly out of hundreds or a hundred out of millions or a million out of the innumerable swarms that rest over the earth like a blanket and simply gravitate into any vacuum—of fly life—that may happen to occur in such insignificant spots as a city? We must have better methods, methods that act continuously and automatically to dispose of the locally produced insects and the immigrants that flock into places fortuitously vacated by them.

Cleaning Up the Summer-Home

The measures I have instituted at my summer-home, at Idylwilde Pines (Michigan), have proved eminently effective. We there have installed the Lumsden toilets, and these perfectly protect the soil and, consequently, the well-water, while neither fly nor mosquito can secure access to the sewage. At the end of the season, the tanks are emptied and the contents buried at safe places. The entire cost of the Lumsden sewerage system being within the purchase power of a ten-dollar bill, the trifling cost of operation (a cupful of kerosene once a week and $3.00 for the annual emptying reduced by the contents being utilizable for fertilizing), the total absence of odor, besides the possibility of locating the privy in convenient proximity to the dwelling, all these features make this the ideal system for summer-homes, farms, and any detached residences where sewer connections are not available. Several years' experience has confirmed my choice of this excellent contrivance. Incidentally, the Illinois State Board of Health has published a description of it, a copy of which, I presume, can be obtained on application.

Garbage Disposal

The disposal of garbage and wash- and dish-water is almost as important as that of excrementitious matter; for these things attract flies and furnish breeding-places for them. I have also solved this problem. With a post-hole-digger, a few holes are sunk three or four feet deep, into the sandy soil, and into these cells polluted water and garbage are poured. Over the hole, a large flytrap is placed, the kind that costs about a dollar. The flies are attracted by the garbage and caught in the trap.

I installed this system during the winter, and the early fly entered into my little scheme

most readily. I had observed in the fall that as each of the neighboring cottages was closed, there was a considerable accession to the colony of flies at mine; proving that these pests readily migrate over the short distances between the residences of their involuntary hosts.

Large numbers of flies were caught in my trap, and, as a matter of fact, very few have been seen this summer at any of the cottages of the camp. With a similar outfit installed at every house, I firmly believe that the fly-nuisance may be suppressed completely.

Another thing: As each hole is completely filled up, a shovelful of soil is thrown in to cover the contents. The open pits formerly used, in which the garbage festered in the sun, are now utilized solely for disposing of empty tin cans, which are arranged upright and filled with dry sand.

So far good—but we can not stop here. I firmly believe the medical profession is responsible—indeed, criminally so—for every case of typhoid fever. The germs of the disease are transmitted solely through the patients' discharges; and if these were adequately disinfected in every case of typhoid fever there would be an end to the malady within a brief period. And this so very easy!

Just have the person attending the typhoid-patient receive every discharge of feces and urine into a vessel containing freshly made whitewash and let this stand for at least an hour before it is emptied. Every typhoid-germ will have perished in that time, when the stuff may safely be deposited in the cess-pool—or in the family-well, if preferred. The sputa should be similarly treated. In addition, it may be that benefit accrues from impregnating the air of the sick-room with the fumes of formaldehyde, eucalyptus or chlorine, but the best disinfectant is the free access of fresh air and sunlight.

Alimentary Disinfection

This is not enough—we must disinfect the patient's alimentary canal, destroy the typhoid germs before they are evacuated. Unfortunately (?) I have nothing new to offer about this phase—for more than a third of a century the sulphocarbolate of zinc, following complete evacuation of the bowels, has given me such entire satisfaction that I have not felt justified in experimenting with other germicides and antiseptics. If many a case of typhoid-fever, in its early stage, has not been aborted by this means, then all clinical observation and evidence is, indeed, fallacious and the art of diagnosis may be relegated to the scrapheap, in common with alchemy and astrology, and like discarded notions.

Most striking are the results of this line of treatment in the paratyphoid group. In not a solitary case have I ever witnessed a relapse when I was using the "cleanout and cleanup" method—giving calomel and podophyllotoxin, saline laxatives, and the sulphocarbolate in efficient dosage.

It may be that there are other intestinal antiseptics, more germicidal and no less innocuous, but if so, they have yet to pass through the test of many years' use by many thousands of practicians.

Now as to Malaria

Rarely, if ever, can we justly claim that the last word has been said about any medical question; and there are some as yet unresolved nebulae in the firmament of the autumnal malarias.

The discovery that infected man is the source from which the female mosquito derives her store of plasmodia is of cardinal importance. If Bass's suggestion, to test all the inhabitants of malarial districts and treat them during the period of the dormancy, should be carried out effectively, this malady also could be eradicated. But, when the medical profession has not even yet risen to the plane of exterminating typhoid fever, as indicated, how can we expect entire communities, embracing large proportions of illiterates, negroes as well as whites, native and immigrant, to reach such a height of universal comprehension?

In the meantime, I should like to know what explanation may be proffered of the remarkable improvement following the application of this same "cleanout and cleanup" method in malarial affections. Is the alimentary canal a breeding-place for the plasmodia also? I believe that this will ultimately be found to be so. At any rate, try this as a routine of treatment in all but the algid forms:

Calomel and podophyllotoxin, a sufficiency, followed by laxative salines; then zinc sulphocarbolate up to 40 grains daily. Meanwhile give 1 grain each of quinine arsenate and of berberine every day for three weeks or longer. The 1 grain of arsenate is fully equal to a Gram of the sulphate of quinine. Berberine causes contraction of the spleen and forces the plasmodia out into the blood current, where the germicide may get at the invaders.

Theorem: That 3 grains a day of calx sulphurata (U. S. P.) will saturate the taker so fully that neither mosquito nor other insect will attack him; and, that, thus protected, anybody may move about in malarial districts by night and day, without incurring the danger of an attack of the disease. I do not especially care for argument—have had enough of that—but, if any clinician can supply facts from his own experience favoring or antagonizing this assertion, I shall receive them with gratitude.

The history of therapeutics is a sea littered with the wrecks of really good remedies, each half tried, then deserted for newer ones suggested. Many a brilliant gem has thus been lost to humanity. Even when positive testimony has been adduced against a method or a remedy, it is usually buried in some technical periodical that never gets to the clinician who needs the information. For this reason we are bewildered by a multiplicity of remedies, out of which we must choose doubtfully, when a careful testing would have eliminated all but the really good and rendered our choice something akin, in certainty, to that of the surgeon selecting his instruments. Not until we can secure surgical certainty in our adaptation of means to our ends, shall we see therapeutics rescued from its present lowly position, which is entirely unmerited.

The Chemistry and Therapeutics of Nuclein*

By William Sanders, M. D., Louisville, Kentucky

THERE is, in our materia medica, a great number of neglected remedies which, if employed in properly selected cases, would yield wonderful results. The virtues of many a drug remain unknown for years, until some medical bellwether leads the procession; then it is heralded around the world. Witness the iodine-craze among our surgical friends. Iodine was discovered in 1812, and less than five or six years ago any suggestion as to its use as a local antiseptic would have been met with derision. It took one hundred years to popularize it.

Nuclein is a remedy that could, and should, be used more widely; therefore, it may not be time wasted for us to spend a few minutes in its consideration.

By nuclein is meant that constituent of the cell by virtue of which this histologic unit grows, develops, and reproduces itself. Chemically, the nucleins are complex substances resembling compound proteids. They are arranged, according to the products of decomposition of nucleoproteids, into three divisions; namely:

1. Cell-nucleins, or true nucleins, yielding a proteid, orthophosphoric acid, and xanthine bases. Nucleoproteids, containing true nucleins, occur chiefly in the nuclei of the cell, but are found also in the protoplasm and may pass into the animal-fluids when the cell is destroyed.

2. Pseudonucleins, yielding a proteid and orthophosphoric acid, but no xanthine bases. They are widely diffused in animals and vegetables, occurring in the solid tissues and in the fluids of the organism.

3. Nucleinic acid, yielding orthophosphoric acid and xanthine bases, but no proteid.

Thus, it may be noted that the nucleins are complex proteid bodies notable for the large amount of phosphorus they contain.

Nuclein is a component of various portions of the animal economy. For instance, the the liver, spleen, salivary glands, lungs, testes, semen, ovaries, spermatozoa, brain, spinal cord and other nervous tissues, thymus gland, and thyroid gland have been examined chemically, with the result that nuclein has been found to be the most important proteid substance present in them. Wherever nature provides for the elimination of poison or waste products of any description, there we find nuclein present both in the secretions and in the tissues. In our present state of knowledge of the structure of the white and red blood-corpuscles and the lymph-corpuscles, we are justified in stating that their most important constituent is nuclein.

Nuclein Increases the Blood's Defensive Power

Nuclein is administered to increase the defensive power of the blood against infection; and it was the epoch-making theory of Metchnikoff—that the leukocytes (or phagocytes, as he called them) are natural defenders of the body's health, having the power to meet and repel an invading bacterial army—that first led to its use.

*Reprinted from The Kentucky State Medical Journal, August, 1916.

In nearly all of the infectious diseases, except typhoid fever, influenza, and measles, there occurs a marked increase in the number of leukocytes. Metchnikoff regarded the multiplying cells as the "army of defense." If the integrity of this "army" could be maintained, the invasion might be repulsed; if it fails, as often happens in severe cases of pneumonia, the day is lost.

Doctor Vaughan, of Ann Arbor, was one of the first to suggest the use of nuclein for utilizing this great fact therapeutically. Since "the polynuclear white blood-corpuscles are active agents in preventing or retarding the multiplication of pathogenic germs in the body," it is rational therapy to give a medicine that will increase these substances. "This increase in the polynuclear corpuscles," said Vaughan, "may be induced by introducing into the animal the most destructive constituent of these cells, which is nuclein."

Nuclein as a Constitutional Germicide

Therefore, it is a reasonable deduction that nuclein should prove of value in treating conditions where it is desired to increase the germicidal properties of the blood, and this includes practically all of the infectious diseases and local infections, and applies to the prevention of disease as well as to its cure.

Although nuclein is given to produce an increase of the number of leukocytes, there is some evidence that it raises the opsonic index. The leukocytes destroy germs by virtue of some constituent or secretion, to which is due the germicidal properties of the blood-serum. It is possible that their secretion is the substance called opsonin. If so, the more leukocytes, the higher the opsonic index. Two observers, Chantemesse and Nilhit, did find that in a case of intestinal perforation the opsonic index, normally 1.6, rose to 2.5 within twenty-four hours after the injection of nuclein. My own experience leads me to believe that its use enhances the value of vaccines.

I have given nuclein in all cases of infection of whatever character for the past ten years and I am now more than ever satisfied with my results.

Cohen, in his "System of Physiologic Therapeutics," has this to say of it: "Nuclein has been found to be a stimulant of all animal cells. Given by the mouth or hypodermically, it causes a marked leukocytosis in a few hours, principally affecting the active phagocytes. If in acute infections protective leukocytosis is not sufficiently pronounced, nuclein is of considerable value. It is indicated in such bacterial diseases as diphtheria, scarlet-fever, pneumonia, and septicemia. Nuclein has been strongly recommended in tuberculosis, and, in cases of streptococcus infection, it would seem good treatment to increase the fighting-power of the leukocytes. The value of nuclein as a carrier of phosphorus should cause it to be utilized in cases of nervous debility, depression, and degeneration."

Manner of Prescribing Nuclein

Nuclein is marketed in tablet form and in solution, either as nucleinic acid or as sodium nucleinate, according to the firm manufacturing it. It is a white amorphous powder, soluble in water and insoluble in alcohol. It may be administered by the stomach, dissolved on [or under] the tongue, subcutaneously or intravenously. The stomach-route is the least effective. However, when so given, it should be administered frequently in large doses and when the stomach is empty. It should not be taken within an hour after eating.

The buccal route has given better results in the hands of many and is to be preferred when the subcutaneous or intravenous methods are rejected. The dose depends upon the patient's age and weight, the character of the infection and frequency of administration, and it ranges between 2 and 60 minims. In acute conditions, 2 to 10 minims may be dropped on the tongue every hour; in chronic cases, the dose is from 10 to 60 minims two to four times daily. The tablets, which represent 2, 5, and 20 minims of the solution, will be found very convenient.

The hypodermic method is employed where a marked physiological action is desired. The dose is from 10 to 30 minims. Intravenously, nuclein is given diluted with physiological salt-solution, in doses of 30 to 60 minims—employing the ordinary technic for such work.

Illustrations from Practice

I will briefly mention three surgical cases in which I feel sure nuclein gave some very good results.

Case I. A man of 32 years was operated upon for hemorrhoids on March 13, 1913. Six days later, he came to my office, complaining of the odor from a colon-bacillus infection. He was given the 5-minim nuclein-tablets, one to be dissolved on his tongue every three hours. In forty-eight hours, the odor had disappeared and a slimy, unhealthy appearing wound had changed to one with a clean granulating surface.

Case 2. A man of 35 years had the typical symptoms of appendicitis and an operation was performed by Doctor Farmer on July 2, 1913—about sixty hours after the onset of the attack. The appendix was found to be gangrenous. There was no mesoappendix, except on the distal third; it was bound down to the bowel, so that it was necessary to split the peritoneal covering and dissect it out; it was so friable that, with scarcely any traction being exerted, it ruptured and the contents escaped into the peritoneal cavity on the outer side of the cecum. This fluid was carefully sponged out and the opening closed, with free drainage instituted. The patient was given from 15 to 30 minims of nuclein-solution, on his tongue, every three hours. In thirty-six hours, his temperature was normal, and in a few days he remarked that since they had been putting that stuff on his tongue he was feeling ever so much better and stronger. He left the hospital on the 21st, with the wound so nearly healed that it required only two more dressings. He was also given one mil (Cc.) of Van Cott's vaccine several days after the operation, for the relief of a troublesome cough.

Case 3. A girl, aged 12, had a latent sinus infection complicating mastoiditis, further complicated by arthritis in the angle-joint from an infected thrombus. Ligation of the internal jugular vein was done by Dr. John R. Wathen, and a radical mastoid operation and opening of the lateral sinus performed by Dr. G. C. Hall. I had the girl under observation for about one week before the operation, during which time she received the 5-minim nuclein tablets, one dissolved on the tongue every three hours; besides receiving one dose of Van Cott's vaccine. After the operation, she received 15 minims of the solution dropped on the tongue with a medicine-dropper, and in a short time (not over three or four days) her temperature, which had, at times, been as high as 105 degrees after the chills, had dropped to normal and the arthritis had disappeared. She made a very quick recovery.

I could, if time permitted, cite a great number of cases, not surgical, in which nuclein has been employed. They would cover the whole field of infections, general and local, and including all ages and conditions.

There is one fact that cannot be disputed. Nuclein will do no harm. There will be no bad effects, no matter how large the dosage—except, perhaps, that in some patients, if given over a length of time, some gouty pains from the increase of uric acid may set in. In such event, give alkaline diuretics and, if necessary, diminish the dosage of the nuclein.

Nuclein is a nonpoisonous germicide, which, if given persistently, often would change the course of many a desperate case to a favorable termination.

The Modern Method of Treating Typhoid Fever

By George H. Candler, M. D., Chicago, Illinois

Author of "Everyday Diseases of Children"

MY ONLY excuse for presenting a paper upon this subject is that a certain proportion of the profession, especially men practicing in remote districts, seem to have failed to realize fully the extraordinary efficacy of bacterin therapy. Nearly twenty years ago the use of the sulphocarbolates as intestinal antiseptics was urged and the possibility of aborting the disease process pointed out.

As time passed, first scores, then hundreds, and finally thousands of doctors throughout the country tried this remedial agent and found it uniformly effective. From that time, to many men typhoid fever ceased to assume a fearsome aspect, and patients seen early were prone to recover so rapidly that unbelievers (and there were many!) had some seeming basis for their oft-advanced argument of "mistaken diagnosis." Yet, in their own practice, patients presenting precisely the same symptoms traveled with unfailing regularity the long typhoidal road which ends in death or at best in a tedious convalescence followed often by years of semiinvalidism.

Almost against their will, and despite the adverse opinions of laboratory investigators, who thought it quite impossible to affect the bacillus typhosus inimically, even with massive doses of intestinal antiseptics, some of these practitioners began administering the sulphocarbolates, and, strangely enough, immediately began to make "mistakes in diagnosis," or, in truer phrase, to obtain

definite remedial results in cases resembling those that proved resistant to treatment in former days.

It has been my pleasure to receive many letters from physicians in which they frankly acknowledged their early blindness and spoke in glowing terms of the certainty and celerity with which they were now able to treat typhoid fever. As one man expressed it, "I used to have twelve to twenty cases of typhoid fever each year and, I am sorry to say, lost a very large percentage of these patients. Even those who recovered ran the usual course and caused me unceasing anxiety. Not a few of them, moreover, presented distressing sequels. Today my people realize that if I am given even half a chance I can either cut short the disorder or so mitigate its severity as to render the illness a minor affliction."

Considering that such results are generally known to physicians throughout the civilized world, it is almost impossible to comprehend the mental processes of those men who still refuse to regard the sulphocarbolates as of value or typhoid fever as anything but a "self-limited" disease. Less difficult perhaps is it to excuse the practitioner who declines to use bacterins because he has little or no difficulty in controlling typhoid fever by the intelligent use of eliminants and intestinal antiseptics. Still, if he will seriously consider his obligation to give his patients the very best service he can render, he must acknowledge that failure to employ biologics is reprehensible, not alone because their curative action has been proven beyond any possible argument, but because a very tangible danger to others is removed or reduced to the vanishing point thereby.

A Hypothetical Case

For the purpose of illustration let us assume that a case of suspected typhoid fever occurs in a small community. The patient has not been away from home, but the family (or some near neighbor) has entertained an outsider who may have the disease or be an unsuspected carrier. It is quite possible, of course, that under proper internal medication the full clinical picture may fail to develop, *but* the appearance of other cases (even though every ordinary precaution be taken) could not, under the circumstances, prove surprising. Some of these may not receive immediate or even proper attention, and, so, later they are likely to assume a serious aspect.

Just such circumstances have only too often resulted in a "run of typhoid." If, upon the first appearance of suspicious symptoms, the patient had received 1-2 to 1 mil (Cc.) of a typhoid bacterin (100,000,000 to 200,000,000 killed bacteria), and every known exposed person the typhoid prophylactic bacterin, the situation would in all probability have been brought under perfect control.

Moreover, the condition of the patient following the initial injection is of decided diagnostic value. If he has typhoid fever there is nearly always a sharp rise of temperature within twelve to sixteen hours; this gradually subsides and a low reading is obtained night and morning for two or three days. Then there will probably be another rise, and a second injection of at least 100,000,000 killed bacteria will be necessary. If the patient has also received proper eliminative and antiseptic treatment, the clinical picture will become more satisfactory, and after a third (rarely a fourth) dose of the bacterin the temperature will usually remain normal, and rapid recovery will follow.

The appearance of individuals so treated speaks volumes for the efficiency of this plan. Moreover, under anything like favorable conditions complications and sequels need not be feared. In numberless instances two injections have proved sufficient to stay the infection.

The Prophylactic Injections

Exposed individuals—or those likely to be exposed—usually receive three doses of the typhoid prophylactic bacterin. The first dose contains 500,000,000 killed bacteria and the second and third, given at ten-day intervals, 1,000,000,000. If the dose is given late in the afternoon, reaction will occur during the night and not incapacitate or even inconvenience the recipient.

The injections cause more or less local smarting, which disappears within half an hour. Four to six hours later there will be some headache and a feeling of lassitude or even distinct malaise. These symptoms may persist for a few hours, but usually are so slight as not to interfere materially with the patient's rest. There will also be a distinct local reaction, i. e., erythema and edema about the site of puncture. Further than this the whole procedure is innocuous.

The fact that in army camps and even in the trenches of the European battlefields typhoid fever no longer reaps a harvest more abundant than that even of the guns is proof enough that immunization by the use of bacterins is virtually a certainty. The protection thus afforded lasts for two years.

Under the circumstances it has become the plain duty of every physician not only to immunize every individual exposed to infection, but so to protect those leaving hygienic homes for cities, towns or, particularly, summer camps and lakeside resorts. Especial activity along these lines is called for, should a single case of typhoid fever occur in any neighborhood.

As every doctor with a few years' experience knows, it is not always an easy matter to diagnose typhoid fever early. By the time the symptoms become unmistakable, and a positive Widal can be obtained, such serious lesions have occurred that the most active treatment may serve but to hold the unfortunate back from the grave. Sometimes it fails even to do that. Therefore, where the symptoms at all suggest the presence of typhoid fever, it is the correct thing to institute the full treatment and thus avert possibly serious trouble.

An Outline of Treatment

Occasionally, without perceptible reason, failure will occur, for, as long as we have to deal with present conditions of living, a certain number of individuals must succumb each year to this disease. However, the roster will always be shortest in communities served by physicians who use both reliable biologics *and* really active intestinal antiseptics.

During the past three years the value of the bacillus bulgaricus in typhoid fever has also been proven very definitely. After the intestine has been thoroughly cleansed of gross debris, preferably by the administration of *small* doses of calomel and podophyllin, with bilein, followed by a full dose of a laxative saline, the sulphocarbolates should be pushed in full dosage for three days at least. The writer rarely gives less than ten and sometimes twenty grains every three hours, always with a draught of boiled or distilled water. When constipation exists, the sulphocarbolates of calcium and sodium should be employed alone. I have found, however, that this troublesome condition can be controlled absolutely by the use of any good preparation of petrolatum, and only now begin to realize what a solid foundation for his belief an old doctor of my acquaintance had when he stated that all his typhoid fever patients recovered in three weeks on calomel, creosote and "vaseline."

As soon as the discharges become inodorous the sulphocarbolates should be stopped and a virile preparation of the Bulgarian bacillus administered at least three times daily. The sooner a strong colony of this friendly germ is established, the better for the patient.

The body must be kept therapeutically clean and frequent sponging with a cool magnesium-sulphate solution will often render the use of antipyretics unnecessary. It should be borne in mind that the rise of temperature, which follows the administration of bacterins, does not call for the use of such drugs; also, that pasteurized milk and properly prepared buttermilk may be given with advantage to patients receiving the Bulgarian bacillus. Tympanites very rarely occurs under such circumstances. Earlier, milk should not be allowed. Albumen water, barley water, clam bouillon, and thin cereal gruels are the safest nutrients.

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

[*Continued from page 673, August issue.*]

Consumption and Pneumonia

BUT today there are several manufacturing chemists in the world whose guarantee of a substance justifies testing it; for, they have had it tested crucially ere they made it and offered it to the profession. A few such, from whom I buy some extra specialty occasionally, send me quite a lot of something new of extraordinary pretensions, and tell me to pay for it when I find it up to their representation; and this it nearly always is, save quite a number of antitoxins, that I could not possibly prove, because the infection is not here to combat, or so rarely that the antitoxins cannot be introduced.

There is here very little consumption, none hereditary nor from contagion, so far as I have been able to learn. I presume this favorable feature is attributable to the fact that the people live practically out of doors, in addition to their cane walls to houses that the wind passes through in every direction

leaf roofs, dirt floors, no ceiling, and no fire—about as nearly out in the open of nature as it were possible to get, with any pretension to having a house.

From the vague histories obtainable, such old cases as I have met usually developed from chronic catarrh or pneumonia. I have seen cases from pneumonia that supervened before convalescence, proving violently fatal, known, I believe (without reference to authority), as "galloping consumption." I think it was during the civil war that I frequently heard such a diagnosis.

My observations of consumption here seem to bear evidence in favor of the grand open-air crusade against the "white plague" in North America and other countries, where the disease abounds in deadly persistence. That it is virulently infectious, seems to be beyond dispute; also that it requires favorable conditions to propagate itself in new victims; and the fact that families of ten to a dozen children are raised down here in one-roomed huts from infancy to adult states, again seems to prove that the disease cannot thrive in the open in this unhealthy climate, outside of the victim in which it originated from catarrh and pneumonia, and not from contagion, so far as any proof I can find indicates.

I put some little stress on this feature of my observations, because it seems analogous to principles under development in the United States and elsewhere. Were the houses tight and artificially warmed here, there is little room for doubt that families growing up in the same small room with putrid consumption could not all escape infection. But it must be remembered that the victims of consumption here find modifying influence in the conditions that have been indicated, suffering less acute distress and living much longer than they do in other climates and under conditions favorable to its development.

In my years of practice, I have picked up several things from virgin nature that are possessed of a high degree of medicinal value; which, properly used, are a great aid in improved medication. To some extent, these substances are known to the American fraternity and prescribed more or less. I refer to the tropical and semitropical fruits, lemon, orange, banana, and papaya.

Lemons as Valuable Remedial Agents

Lemons are possibly of more intrinsic value than any single drug in our materia medica; that is, if salvarsan should fail to make good to the limit of its pretensions. With lemon-juice and strong black coffee I have cured many cases of fever, in times of revolution, when no medicines were obtainable after the rebels had seized the stock on hand. This number of patients included many soldiers, both federals and rebels; that is to say, not during the pending and recent troubles, but long ago, after the French invaders had retired. This coffee and lemon-juice draft acts slowly, but surely, on the fever. Incidentally, strong coffee is in a high degree stimulating, more persistent in this influence than whisky. Thus, when, during epidemics, I was under the necessity of passing many a wakeful night, I was accustomed to take a cup every three hours, and suffered little inconvenience from sleepiness.

In diarrhea and dysentery, a full purge of epsom salt, with a strong "spike" of lemon-juice, frequently cures when given at the inception of the attack, while it so considerably modifies rebellious cases that other medication that follows it will act like a charm, when otherwise little or no noticeable benefit would have resulted without the previous action of the purge and the subtle influence of the lemon.

In the treatment of gastric fevers, especially typhoid fever, I administer enemas of epsom salt and diluted lemon-juice; the latter about four times as strong as the strongest lemonade; these enemas work well, being cleansing, soothing, and refreshing. I also give all the lemonade the patients want or can be coaxed to drink. Usually they want it in sufficiency, as it slakes the burning thirst, as well as tending to assist general improvement. I use it in any and all disease conditions. And, remember, in Asiatic cholera a 50-percent solution, given as a clyster, kills the germs wherever it reaches them—acting as a germicide where other substance sufficiently potent to render the same service could not be tolerated. I will add that there is no soap known to the medical profession that is as cleansing as is pure lemon-juice, or more positively disinfecting.

The hundred and one uses that the lemon serves in the culinary department are explained in cook-books; and I have barely outlined a few leading hints of its possibilities in medicine, as there are many minor employments it does not disappoint.

The orange renders me great service in my practice, the ripe fruit here being so rich in saccharine substance that it nourishes, while at the same time supplying the requisite acid;

thus taking the place of lemonade, while in season, during the patient's convalescence. And it is relished by everyone. I permit my patients to suck all they wish. I have had convalescents who could not keep anything else on the stomach even for a minute, and these took no other food or drink for full fifteen days; yet, their stomachs never revolted once after the ingestion of the orange.

Medicinal Properties of Pineapples and Papaya

The pineapple is another medicinal fruit of precious value in my practice. It destroys scurvy in short order. It also is effective in diphtheria. The fresh fruit is of more value, as a rule, than other remedial agents, save the diphtheria-antitoxin, and that I have never used, since there has been none of the dreadful scourge here in recent times.

Next to the papaya, I find the pineapple the best digestant in clinical practice. A tablespoonful of the pure juice will digest an ordinary meal. Before the revolutions of recent years, I preserved the juice made up into syrup, in order to have it ready to send where there was none of the fruit or to use when none was ripened. I have thus had as much as fifty gallons prepared at one time. Now that the pure pineapple-juice is preserved and marketed, the same as grape-juice, it should be within the reach of everyone. I do not suppose that the canned fruit would be worth much, as that, as a rule, consists of the inferior stock.

The papaya excels all else as a digestant. There are to be had papain in syrup and in wine, and other preparations of the active principle. These are useful. However, the ripe fruit is the great infallible of all the digestants in use. Personally, I cannot eat salt fish or salt beef without subsequent inconvenience; yet, I can eat a full meal of either, provided I eat on top of it a piece of the papaya, about what one would of muskmelon; I never feel, then, that I ingested any such food. I have had the same experience even with dyspeptics, its use resulting in a perfect digestion. Mr. Edward Simmonds, of the U. S. Agricultural Department, has recently published extensive reports on the production and usefulness of the papaya, and he testifies to the fact that the juice of the ripe fruit liberally applied to raw meat reduces it to pulp in half an hour, and that the toughest meat wrapped in the leaves of the plant will be tender in two hours.

Mr. Simmonds makes the statement that the papaya can be grafted with more facility than the apple or the peach, and that he hopes to succeed in grafting on the wild stalk, such as grows everywhere here in the woods, bearing a small fruit used only in preserves. Thus the standard fruit may be developed to stand something more of cold than it bears at present. The chief reason for grafting, apart from improving the quality, is, that more than half the plants are male, hence, bear no fruit.

Mr. Simmonds reports that the fruit stands shipment for long distances, going from Jamaica to London in perfect condition. He thinks that all the markets of the United States may be supplied, the Everglade coast of Florida, the Keys, Cuba, and Puerto Rico being promising fields of production, in fact, wherever there is exemption from frost. He gives fifteen months as the period to get ripe fruit from seed, although I get it in eight months; but, then, our eternal summer, with its approximately 180 inches of rainfall, really produces a widespread hotbed down here.

Dr. C. R. Oertel, of Santa Fe, Isle of Pines, and Dr. E. S. Goodhue, of The Doctorage, near Holualoa, Hawaii, are extensive growers, and they would be likely to supply seed. I am too far out of the way, and time by mail is too long. The better way is, to procure the ripe fruit and plant the seed at once; for, I find that the seeds act badly here when out of the fruit a few days, and I have to destroy plants like evil weeds, that come up from the fruit that falls off and rots on the ground.

I get fruits ranging from 10 to 25 pounds apiece, and the plants are great producers, bearing from twenty to fifty fruits each. Still, I shall have but very few this year, as a swarm of grasshoppers ate my plants in an hour one morning when I was not at home.

The efficacy of papayotin, the digestive principle, caused me to experiment with the ripe fruit itself, and with such success as I had not anticipated. Moreover, I relish it as a table-fruit more than the finest cantaloupe or muskmelon that grows anywhere, frequently eating of it three times a day. I usually have fruit ripening all the year 'round.

Wherever it can be grown successfully, accessible to American markets, papaya should be far more profitable than strawberries or oranges, because of the short time necessary to produce crops. As a minimum, an acre should give 20,000 fruits, with a fair chance of fifty percent more; while cultivation and marketing are far less laborious and

costly than in the case of strawberries and oranges.

Curative Virtues of Grapes in Dyspepsia

Grapes are of great value in dyspepsia. Two or three meals or a few days of it would be of no use, of course; in order to cure, the patient must eat and eat grapes, good ripe grapes, first, last, and all the time; keeping full of them until he is well. And, indeed, very few people get disgusted with the treatment. But, after the scavenger-grape begins to get its work in effectively, other foods are in liberal order. From the very start, the whites of two eggs, well beaten in half a glass of sweetened water and the juice of half a lemon, should be taken three times daily. A cup of coffee and milk, the latter boiled before mixing with an equal part of a good coffee, three times daily, an hour after the whites of the eggs, each time.

When the patient shows sufficient progress, rare beefsteak, roast mutton, fowl, baked apples, baked potatoes, and whole-wheat bread and butter may be taken in relished quantities; water being ingested copiously between meals. Meanwhile the equivalent of a tablespoonful of good ripe pineapple-juice should be taken on top of each meal; and this should be continued after the cure is accomplished, so as to keep digestion in order. The grapes not only may, but should be eaten, whatever the hour, the last thing before retiring at night, so that the stomach may be full of grapes all the time.

The contracted and inactive stomach is thus inflated and stimulated by the bulk of the grapes, and gradually is cleansed by the purifying juice that oozes from the fruit; while the seed and pulp of the fruit act as a scavenger-force along the entire alimentary canal, loosening and expelling dry, hard mucous scabs and fermenting food, even distending, cleaning, and toning the intestines all the way down to the anus.

There is nothing else to which vitiated nature responds so readily, and nothing that is relished so universally by the patients; and the priceless property of its nourishing virtue combines with the other high-grade services which the grape renders suffering humanity.

About Bananas and Some Starchy Tubers

The great staple of life here, among the poor, is the plantain, the grand cooking-banana, which, when ripe, has a nutritive value of four to five as against the best beef. There are big belts of coast where this fruit and salt-water fish constitute the staple food-supply; and, although the infesting miasma and malaria is deadly to newcomers, the natives are healthy, and the chubby children are fat and rosy until remorseless vice claims them as they grow up. The field, the orchard, and the garden, if supplemented by milk and butter, possess facilities for banishing medicines from the earth and for the endowment of the human family anew with the health and long life of primeval time.

A glass of good lemonade on an empty stomach the first thing after rising in the morning would underwrite many a pain and disorder that otherwise are inseparable from the weary pilgrimage of sick life. A good, big, juicy orange possesses nearly equivalent virtues. Ripe apples, raw or baked, ripe peaches, plums, and most of the small fruits are health-breeders. I do not recall at this moment any vegetable that is prejudical to health, while many of them are highly beneficial—tomatoes really being a crude vegetable calomel. Corn, black beans, and cooking-bananas comprise the staff of life among the poor down here, and the people would be healthy but for their deadly vices—the new rum and tobacco of the grownups, and the eating of dirt by the young.

We have here the best sweet-potato on earth, a prolific producer, yet, very rarely met on the table, the big plantations having no semblance of gardens. I have the sweet-potato all the year 'round. We have another root, the yucca. When a piece of the woody stalk is planted it makes tubers in six months; and they are very much more nutritive than the Irish potato. I am the only person within leagues of me who has a vegetable garden on the order of an American market-garden. This I established to teach the people who want gardens.

I am securing samples of fruit-trees from a Texas nursery, and my navel, Mediterranean sweet, and Valencia late oranges and my grape-fruit are in fruit somewhat this year, for the first time; the Villa Franca lemon does not yet bear, but the magnolia fig is loaded nearly all the year 'round, some ripening almost every day. Blackberries and dewberries are beginning a little; but apples, peaches, plums, cherries, and others of that kind have not yet had time. This is the grand orange and lemon garden of the world, without cold, and the trees never suffer for want of water.

There is nothing new in all this, I know—yet, it is worthy of a place in improved medication. [*To be continued.*]

What Others are Doing

"MIL"—A NEW TECHNICAL TERM

The new edition of the United States Pharmacopeia became the official standard on the first of September—just a few days before this number of CLINICAL MEDICINE will reach its readers. This revision (the 9th) contains some new features, including omissions and additions, to which we shall refer editorially at the proper time. One change, however, seems to call for immediate attention, namely, the adoption of the term "mil"—an abbreviation of milliliter in place of the familiar cubic centimeter, or, abbreviated, "Cc.". Hence, "mil" being only a new name for the Cc., designates the 1–1000th part of liter (1000 Cc.) and is approximately equivalent to 16 minims. Estimating roughly, therefore, four mils are equivalent to 1 fluid dram.

This new term ("mil") from now on will be encountered constantly in medical literature, and after this will be employed in the pages of CLINICAL MEDICINE. Consequently we ask our readers to impress its meaning upon their minds, in order that any misunderstanding may be avoided. For a few months when using this term, we shall add the more commonly known synonym Cc., in parentheses, until it has become sufficiently established in our terminology.

On the whole, the word seems to us a very convenient and satisfactory one. The pity is, that it will appear in American literature only, since, so far as we know, it has not been adopted in other countries. Possibly they may come to it in time.

THE CAUSAL RELATION OF FOOD TO SKIN DISEASES

In his treatise, "The Principles and Practice of Dermatology," Dr. W. A. Pusey enumerates as causes capable of affecting the health of the skin those which (1) act directly upon the cutaneous cells; those which affect either the supply or the composition of its nutritive fluids, the blood, and the lymph; and (3) those which influence the nervous apparatus concerned in the nutrition of the cuticle. Among the internal causes of dermatoses, there are the toxic, the nutritional, and the nervous agencies, and, among the first-named, the author differentiates between drugs, foods, bacterial toxins, general infections, autotoxins.

As to the influence of food as a direct etiologic factor in diseases of the skin, Pusey has only little to say. He does refer, though, to the fact that too little food or a onesided dietary may predispose to affections of the skin by lowering its resistance; also he refers to the bad effects of overindulgences, or to the eating of indigestible food, through which gastrointestinal, toxic or metabolic disturbances are engendered.

Since the problem of hypersensitiveness to proteins came to be studied by von Behring in Germany, Richet in France, Rosenau and Anderson in this country, and others, the connection of various dermatoses, more particularly the urticaria following upon the administration of certain drugs, has received considerable attention; but the role that is played by various foods (except possibly the rash occurring after eating strawberries, tomatoes, besides a few other vegetable foodstuffs) was held to lie more in the direction of intestinal autointoxication, which might give rise to skin disorders as an expression of a perverted metabolism.

In *The New York Medical Journal* for July 29, Dr. Albert Strickler reports upon a study of forty-six patients suffering from eczema, whom he tested for their hypersensibility to beef, mutton, pork, fish, oysters, clams, crabs, eggs, cow-casein, wheat, oatmeal, barley, rice, strawberries and tomato.

The proteins were extracted from these substances by means of a weak alkali solution, and from these extracts test-fluids were prepared for endermic injections by which the existing anaphylaxis for certain food-proteins might be determined. In accordance with the reaction occurring in response to the tests in question, the diet was regulated for each individual person; local treatment being withheld whenever possible, in order to discover what benefit, if any, a given dietary exerted on the course of the eruption, and

with reference to the subjective and objective symptoms.

The author found that the anaphylactic food tests are of decided value in the causal diagnosis and also in the treatment of the various diseases of the skin; and parallel investigations in cases of urticaria and acne demonstrated that the benefit derived was greatest in eczema, where the development of the strong, positive reactions holds out great hope for improvement or cure in the condition of the skin, and also, in some instances, an amelioration of associated gastro-intestinal disorder, by excluding the incriminated articles of food.

This method of studying and defining the causes of individual cases of eczema, is still in the experimental stage, but it is to be hoped that in time it will be developed practically. For the present, the general practitioner can make use of the lesson empirically by regulating and modifying the diet of his eczema-patients in various directions, until he has hit upon that particular dietary regimen in which the course of the cutaneous diseases is influenced most favorably; keeping in mind that hypersusceptibility to certain protein constituents of foods usually is an individual peculiarity and that for the same skin disease it may differ in several persons affected.

BACTERIAL CAUSES OF STILLBIRTHS

It is well known that the acute exanthemata are communicated from the mother to the fetus, while recent investigations have shown that pathogenic bacteria can be transmitted from the maternal to the fetal circulation, even though the placenta be not diseased.

In *The Journal of the American Medical Association* for July 29, Professor De Lee reports several cases of premature stillbirths, in which pure cultures of various septic organisms were found in the fetal and infantile organs and discharges. The mothers had not been seriously ill or had (with one exception) had only slight affections.

In one of Doctor De Lee's cases, the mother had shown symptoms of a slight pharyngitis, and a few days later fetal movements had ceased, labor occurring four weeks afterward. A macerated fetus was delivered, the organs containing pure cultures of streptococcus viridans. The inference is, of course, that the infection of the mother was not sufficient to produce palpable disease in her, even though the bacteria had passed into the blood; but they were transmitted to the fetal circulation, and the fetal organism did not possess enough resisting power to overcome the infection.

While this subject still is largely in the stage of investigation, enough is known about it to emphasize the importance of attending to all, even the slightest, ailments of expectant mothers, and not to permit them to neglect "a mere cold," for instance, without ascertaining the bacterial cause, to take steps to counteract the infection, and to prevent its transmission to the fetus, by means of prompt specific, that is, antibacterial, treatment.

ADRENALIN IN INFANTILE PARALYSIS

At latest reports, between 5000 and 6000 children have been attacked by infantile paralysis in the city of New York, with a death rate of more than 20 percent; and thus far there seems to be no cessation of the epidemic, while the fear is constantly present that the disease may extend at any time into virgin territory. Under the circumstances, every physician should familiarize himself with the natural history of this infection, and especially with the methods of preventing and treating it.

The most important remedy recently suggested is adrenalin. It was brought to the attention of the profession by Dr. S. J. Meltzer, of New York, who reported some experimental work on monkeys and also some actual clinical experience with this drug. The adrenalin is introduced into the spinal canal, the object to be attained being: (1) to reduce the peripheral zones of active hyperemia, exudation, and edema surrounding the foci of the disease, and (2) to raise the blood pressure and improve the circulation in the affected areas.

If this agent can be employed early, before the pathologic process has advanced too far, it seems to give very good results. Thus, for instance, Doctor Bermingham reports favorably upon its use in 41 patients treated at the New York Throat, Nose, and Lung Hospital. It has also been tested experimentally on monkeys.

Doctor Meltzer says that in human infantile paralysis injection should be begun with a dose of 0.5 mil (Cc.) of adrenalin, and the injections are to be repeated at from 4- to 6-hour intervals. Monkeys stand well a dose as large as 2 mils in a single injection, but he advises caution in treating human patients. Doctor Meltzer also advises artificial respiration, by means of an apparatus

devised by himself, as soon as the patient shows respiratory insufficiency.

In commenting editorially, upon this use of adrenalin *The New York Medical Journal* says that there is much evidence to indicate that we have in adrenalin a direct activator of the antitoxic function of the blood. The editor explains its value in this way, rather than along the lines outlined by Doctor Meltzer.

In this connection, we once more wish to emphasize the desirability of prescribing calcium sulphide in every suspected case, especially as a prophylactic. This remedy can do no harm, and, while as yet there is no clinical experience on record to attest its value in poliomyelitis, it has proven of such merit in scarlet-fever and other contagious diseases that we are confident of its proving equally effective in infantile paralysis, providing it is given early and given to saturation.

MORE PRAISE FOR CALCIUM SULPHIDE

In *Ellingwood's Therapeutist* for August (p. 283), Dr. R. C. Rodecker gives a very interesting review of the early history of calcium sulphide, concluding his article with the following relative to its therapeutic action:

"Let me say at this time that you must not expect too much from the remedy; but you must also follow up the individual conditions of the case as well as your remedies. You would not expect purulent inguinal adenitis to get well alone without examining the groin and making necessary treatment there, would you, besides your internal treatment? You can give calcium sulphide without any fear whatever. If you give too much, you will cause your patient to become nauseated and vomit, when the dosage and frequency must be reduced. If the patient complains of belching up gas that tastes like rotten eggs, diminish your dose and give it before meals, when there is no presence of acid in the stomach, as it is decomposed by gastric juice.

"In all your cases which are accompanied by an old purulent discharge, no matter what it is or where it is, administer this remedy, and you will surprise yourself as well as earn more clientele.

"I have seen an old case of gleet, of a year's standing, dried up and cleaned, after going the gamut of sandalwood, copaiba, argyrol, and what not. Cleanse the urethra with some mild antiseptic solution, and see what the remedy will do.

"Middle-ear disease, where the discharge is thick and bloody: irrigate with boric-acid solution and give calcium sulphide. You will be amazed. In the terrible infection of anthrax, it should not be forgotten, nor in old indolent ulcers, nor in any skin disease that is of an eruptive or exudative character.

"Lastly, in the treatment of zymotic disease, no matter what it is, young or old, the period is shortened and the course of disease checked amazingly.

"Now as to my own experience I will make the broad statement that calcium sulphide is a prophylactic in the treatment of scarlet-fever.

"Last December a schoolteacher became ill with this disease. There were three small children in the family. They were in the same room and around her all the time. As soon as I was called, I gave each one 1 grain of the remedy four times a day, and they were not infected.

"Another family, where there were two children; one child had scarlet-fever and diphtheria severely. I followed out the same course. The other child escaped unscathed, although both stayed in the same room all the time.

"Previously, when I treated scarlatina, there often developed phlegmons and adenitis. I used antistreptococcic serum. Recently I find that, if I am called early and administer calcium sulphide along with the other treatment, there is little reason to worry about post-scarlatinal adenitis or otitis.

"The cases I have reference to occurred in January and February. The March number of THE AMERICAN JOURNAL OF CLINICAL MEDICINE lauds it very highly in the treatment, but I have not seen nor found anything that will proclaim it as a prophylactic. It is like all our remedies of our own personal materia medica. Do not expect too much of it individually, but we must do our part and combat the conditions as they arise, as well as treat the patient. Last of all, follow Abbott's slogan, 'Clean out—clean up—keep clean.' Rest assured, this old remedy will do its part for you, providing you get a good article and you exercise good judgment in its adaptation."

THE MENACE OF SYPHILIS TO THE FAMILY

Every new case of syphilis confronts the community with three distinct problems menacing to its health and wellbeing. There is the menace of the source of the present

infection (in most instances uncontrolled), the danger from which is shown by the presence of the new case. The case at hand in turn becomes a menace to the clean-living public in proportion to the extent of contact, the infectiousness of the lesions and the inadequacy of the treatment received. The third menace is, the great probability of passing the infection to the present or a future marital partner, and, in time, of blighting the coming generation.

The last mentioned danger recently was investigated, in the skin-department of the Boston Dispensary, by Dr. J. H. Blaisdell (*Boston Med. & Surg. Jour.*, July 6), who undertook a detailed study of 30 cases of family syphilis, in which all members of the family were included and their medical and social histories tabulated in detail.

The importance of dealing with the problem of family syphilis becomes evident from the summary of this investigation, from which it appears that, in 30 families, 59 out of 62 parents probably were infected. Of 132 possible children, only 23, most of them born before their parents' infection, were healthy. Of the remaining 109, syphilis claims—through miscarriage or later death, or congenital disease—at least 83 pregnancies.

The author concludes that syphilis will appear in the home of tomorrow in proportion to the inadequacy of treatment among the "men and women of the street" of today.

CITRATED MILK FOR FEEDING INFANTS

The essentials of the successful feeding of infants may be said to be these: (1) To supply in the food enough fats, proteins, sugars or carbohydrates, mineral matter, and water, to allow of normal growth. (2) The use of clean and fresh milk as the basis of the food, because that is the only available food possessing the property of changing into solids when acted upon by the gastric secretions, as well as to furnish proper work for the developing stomach. (3) The modifications of the milk that have for their purpose the changing of its curdling-property must interfere as little as possible with the normal digestive process.

Some years ago, Wright called attention to the fact that the addition of sodium citrate to milk lessens or entirely checks curdling from rennin action. On the basis of this finding, Poynton suggested the use, in infant feeding, of whole milk modified by the addition of sodium citrate. Since then citrated milk has been employed very widely and now is generally recognized as of great value. In a report presented by F. Langmead to the Royal Society of Medicine, for instance (*Arch. of Ped.*, 1911, p. 688), it was shown that in 80 consecutive cases, in which poorly nourished infants from three weeks to four months of age had been fed with undiluted citrated milk, all had gained weight.

One of the chief advantages of this method of feeding is its simplicity. It avoids the objectionable features of dilution, the bulkiness of the meal, the complexity of frequent variations, the changes of artificially preserved or thickened cream, and the giving of too little fat.

As a whole, Poynton's method has been approved and his main conclusion supported, according to which citrated milk is suitable for the weaning of healthy infants, for increasing the amount of milk taken in the twenty-four hours, for correcting milk-dyspepsia, and for avoiding scurvy.

In a communication to *The Practitioner* (1916, vol. 96, p. 584), Poynton writes briefly, referring to objections and difficulties connected with his method. He insists that he does not advocate placing infants on citrated milk from the first, even though this may occasionally be successful.

Since pure cow's milk may not suit a particular infant, even though citrated, it is always best to begin with diluted milk, until the infant's reaction to cow's milk has been tested, after which the strength of the milk may be rapidly increased. Poynton warns, however, against keeping children upon diluted milk too long. He points out that his method not only is simple, but that it is far less costly than all other available modes of artificial infant feeding, and is, therefore, particularly useful in dealing with the children of the poor. Even here, however, citrated milk should never be resorted to as a routine measure, but it is necessary to individualize.

In the use of citrated milk, it has been observed that in some children undue nervousness develops, although Poynton has not observed such symptoms. He asserts, though, that to persevere month after month in what amounts to quite large quantities of any drug may lead to trouble, and for this reason the addition of sodium citrate to the milk must always be controlled, even though it is not likely to cause harm.

Despite the disadvantages adhering to this method of feeding infants, it may be said to be more readily adapted in general practice than are most others, and results secured by

it are sufficiently satisfactory to entitle this plan to the consideration of practitioners.

Regarding the method of preparing citrated milk, we quote as follows from A. C. Cotton, in his book, "The Medical Diseases of Infancy and Childhood," page 130: "For a moderate degree of disturbance one grain of sodium citrate to the ounce of milk is used; for more severe grades, two, three, or even five grains may be added. In practice the mother is instructed as to the proper dilution of the milk, and the proportions of cream and sugar for each bottle. In addition, she is given a bottle of "medicine" from which one teaspoonful is to be added to the baby's bottle before feeding. This "medicine" is an aqueous solution of sodium citrate; one, two or three grains to the teaspoonful, according to the prescriber's judgment, based upon the evidences of casein indigestion."

PAPAVERINE: A LITTLE-STUDIED ALKALOID OF OPIUM

Last year we published several notes on investigations, which had been reported in German medical journals, on the action and clinical uses of papaverine, an alkaloid of opium that seems to be of far greater value than is credited to it. In the following, we present to our readers further information on this drug, in which definite indications are suggested somewhat different from those for morphine.

Among the constituents of opium, the alkaloid papaverine, which first was isolated by Merck in 1848, appears to have been rather neglected in favor of the more active ones—morphine, codeine, heroin, and so on—and only little work has been devoted to its investigations. Cushny's "Pharmacology," 5th edition, page 223, places papaverine between codeine and morphine in its action on the central nervous system and declares it to be a comparatively weak poison, which even in large doses does not exert the soporific action of morphine and does not produce the same degree of excitement as codeine. According to this author, papaverine is more effective in slowing the heart-beat than is either morphine or codeine. It acts directly on the heart-muscle and not through the regulating centers.

In his classical work, Reil (1857) says that papaverine has no particular action upon the animal organism. Pictet and Wolffenstein, in "Die Pflanzenalkaloide" (1900), give an interesting chemical study of the alkaloid. Sollmann's "pharmacology" (1906, p. 202) merely mentions papaverine as being present in crude opium in the proportion of 1 percent. In the textbook on "Positive Therapeutics" by Waugh and Abbott, papaverine is not referred to at all.

It was Pal who called attention particularly to the action of papaverine on smooth muscle. Aside from the authors named, but very few investigators have occupied themselves with this drug.

In a recent number of *The Archives of Internal Medicine* (June, 1916), Dr. David I. Macht presents the results of a pharmacologic and clinical study of papaverine, from which it appears that the alkaloid exhibits certain very interesting pharmacological properties, chief among which are its effects on the heart and the blood pressure, its action on the coronary circulation, its stimulating effect on the respiration, its relaxing effect on the smooth muscles, and its not inconsiderable narcotic power. Doctor Macht concludes that these properties, together with the comparatively low toxicity of the drug, encourage its use for therapeutic purposes, and his clinical experiences support him in this.

Macht found in his experiments that, if a frog's heart is perfused with a weak solution of papaverine hydrochloride (0.001 percent or less), a distinct slowing of the heart beat occurs, together with an increase in the tonicity of the heart-muscle and consequent increased contractions. If stronger solutions are used (0.01 to 0.1 percent), the stimulating action is absent and, instead, a greater slowing of the beat and relaxation of the heart-muscle are produced. This effect is increased by stronger solutions, and a heart-block effect may become evident, the auricle beating oftener than the ventricle, in the ratio of 2 to 1, 3 to 1, or even 4 to 1. Finally, the heart is arrested in diastole. This peculiar heart action is similar to that produced by narcotin.

The stimulating action of papaverine, in very small doses, in mammalia, was studied by the author in the rabbit, cat, and dog, partly by perfusing excised hearts, but more satisfactorily by the study of the heart *in situ*, with the chest opened and the circulation intact. It was found that small doses of papaverine produced a slight slowing of the heart beat and a marked increase in the tonicity of the heart-muscles. The strength of the contractions and volume-output were also increased. The stimulating effect was shown to be owing to a distinct action on the heart-muscle itself or the ganglia in it, and not upon the nerves.

These experiments demonstrated that papaverine is a powerful dilator of the coronary artery. The blood pressure is lowered through the action of papaverine chiefly by virtue of its peripheral effect on the vessel-walls themselves. Upon the blood-vessels, the alkaloid exerts a vasodilating action.

It was found, further, that papaverine exerts a distinctly stimulating effect upon the respiration. While the rate of respiration is slightly decreased, the volume-output and alveolar ventilation are markedly increased.

In confirmation of the findings of Pal, the author noted that in all cases papaverine causes the relaxation of smooth muscle-fibers.

As for the analgesic properties of papaverine, the experiments of Macht show that they are more marked than those of codeine, the effect of 40 mg. papaverine being not much inferior to that produced by 10 mg. of morphine. The general *narcotic effect was much less than that from morphine.*

Papaverine is *not a very toxic drug* and comparatively large doses can be given without danger. The lethal dose for higher animals is so high that it was not ascertained, for reasons of economy. In guinea-pigs, 100 mg. subcutaneously stimulated respiration, while 200 mg. produced violent convulsions, and death in about ten minutes. White mice required about 0.5 mg. per Gram-weight to produce convulsions, and death in half an hour. In rabbits, 2 Gm. have been mentioned as the lethal dose by mouth.

As to its clinical uses, Macht's experience corresponds with that of Pal. He administered amounts of 40 mg., dissolved in 200 mils (Cc.) of saline solution, and injected it slowly into a vein. No cumulative action has been observed. Papaverine is, for the most part, unchanged in the body and is excreted chiefly through the urine, bile, and partly through the small intestine.

From the results of the pharmacological experiments, it appears that papaverine is indicated in angina pectoris and in cases with hypertension. Pal employed it in aborting uremic crises. It may also be used as a substitute for morphine, where codeine is not effective, and, finally, its peculiar action on smooth muscle indicates its availability whenever there is visceral spasm. The author reports a number of cases in which papaverine was administered with encouraging results, either to relieve pain or for the purpose of utilizing its other properties. While its pain-relieving quality is inferior to that of morphine, this alkaloid is as efficient as codeine, or even more so. In one instance, it was serviceable in relieving the cough of an advanced consumptive. In one case of bronchial asthma, the relief produced by papaverine was marked. Spasm of biliary ducts was relieved in several cases, and the antispasmodic properties were manifested also in several other cases.

Papaverine does not deserve to be relegated to the background, but appears to be a useful constituent of opium, which may be employed safely, more particularly for the relief of pain and spasm in organs possessing smooth muscular fibers, because the narcotic effect is only slight, and also because of its stimulating action on the respiration and on the coronary circulation. It is, of course, impossible to say at present whether it is a habit-forming drug. The fact that its narcotic effect is slight, as compared with its other actions, may justify the expectation that the danger in this respect is comparatively a negligible quantity.

THE TREATMENT OF ECLAMPSIA

Dr. J. O. Arnold (*Ther. Gaz.*, 1916, June, p. 381) compares the conservative, or Stroganoff, method of treating eclampsia, as it is employed on the European continent, with the more radical measures resorted to in English and American maternity hospitals, and concludes that as a rule a judicious combination of both measures is productive of better results than the attempt to follow either school alone. He includes the cases of so-called preeclamptic toxemia in those requiring prompt and active treatment.

From his personal observations, Doctor Arnold concludes that morphine in sufficient quantity (1-2 grain) is the safest and most effective agent for temporarily controlling the convulsions. It should be repeated in two hours, more or less, as may seem required for the purpose.

Early and free venesection is held to be the quickest and best means for securing elimination and reducing blood pressure. In order to replace the bulk of the toxic blood withdrawn by bleeding, to dilute the toxins present in the blood, and to counteract the existing acidosis, the author introduces an alkali solution by the Murphy drip-method. After cleansing the lower bowel, sodium bromide, 1 to 2 drams, and sodium carbonate, 2 to 3 drams, to the quart of physiologic salt solution are introduced in this manner as rapidly

and as constantly as the colon will absorb it. If the intestine should be intolerant of this solution or if the condition appears to call for it, in addition to this fluid enterically, sodium bicarbonate, 2 drams to the pint of physiologic salt-solution is given by hypodermoclysis, repeated as often as appears necessary.

In cases of eclampsia occurring before the eighth month, if there have been more than two or three convulsions, labor is induced. After the eighth month, pregnancy should be terminated, regardless of the number of convulsions; letting the circumstances and conditions determine whether the delivery shall be by the normal route, by inducing labor-pains, or by the more rapid method of cesarean section.

No drugs or nourishment of any kind (with the possible exception of water) are to be given by mouth until long after the convulsions have ceased, but it is advisable to continue the alkali-salt solution administered rectally until quantity and quality of the urine have become satisfactory.

A DOMESTIC REMEDY FOR RHEUMATISM: SULPHUR IN SOCKS

Many of us are familiar with the popular notion that carrying a horse-chestnut in one's pocket, or a potato, will cure rheumatism; and we have been smiling at this absurd conceit. The statement is also made that powdered sulphur worn inside the stocking is a cure for this condition, and we have the authority of Sir Lauder Brunton for the actuality of this "cure"; and in *The Lancet* for February 6, 1916, he relates an experience in point. A woman, he writes, complained of "rheumatism" in her hands, which failed to yield to the medicine prescribed by him. Thereupon a friend told her to powder the inside of her stockings with sulphur and wear them every night in bed. In a short time, this completely cured her.

This remedy certainly is simple, cheap, and easily applied, and it might prove useful in the case of the soldiers in the field. Sir Lauder thinks it hardly could do any harm, although he has no experience regarding the effect of sulphur continuously applied to the skin for some weeks together. At any rate, he thinks it is worth a trial. In this country, more persons seem to wear their sulphured socks in the daytime, in their shoes, and it is difficult to conceive that harm could come from the slight absorption through the moist soles; and people have been known to continue this "cure" for months.

THE PROBLEM OF THE EPILEPTIC

A study of 64 cases of epilepsy recently was undertaken in patients of the neurological dispensary of Johns Hopkins Hospital. The patients' ages ranged between 14 and 60 years, and they were not selected in any way. Each patient was interviewed in the dispensary, then his home was visited and interviews were held with relatives and friends, and in some instances with school-teachers and employers. It was hoped to show by this study, in a small way, the need of an institution for those suffering from epilepsy, where the victim could be protected, trained, and studied.

From the results of this investigation, which is reported by L. R. Waters in *Johns Hopkins Hospital Bulletin* for June, 1916, it appears that, out of the 64 patients, 57 had made some attempt at education and that 30 of them had been obliged to leave school because of their epileptic attacks. A large percentage of the patients received no education whatever, and only a few of them can actually read and write. Although it has been attempted in some cities to hold special classes for epileptics, so many difficulties were found to be connected with this plan that it had to be abandoned.

Of the 64 epileptics in question, 12 have married, 5 of them because they were told that marriage would cure them of epilepsy. The married men (7) are all working and supporting their wives; 4 are fathers of healthy children. None of the married women (5) work away from home.

Of the 64 patients, 20 never have been able to attempt any work at all; the other 44 have tried many things, from errand boy to foreman in a clothing-factory, but there has been no special training in any one case. Of the 44 who began work, only 15 persevered for any length of time. Of the 15 named, 3 have never advanced in their earning power, 1 has receded, and 11 have advanced. In most of the 64 cases studied, no occupation of any kind was followed, the patients staying at home and their care devolving, as a rule, upon their mothers; "they just sit around" and, incidentally, are prone to get into mischief. At least 38 of the total of 64 patients are in obvious need of institutional care.

There are many stories of families suffering privations in order that the three or four dollars may be forthcoming each month to buy the patent medicine that is "guaranteed"

to cure "fits." One mother has spent all her savings—several thousand dollars—to keep her son in a private sanatorium that professes to cure epilepsy.

At present, very inadequate provision is made, by states and municipalities, for the care of epileptic patients. To declare them insane and send them to a state hospital, in no wise solves the problem, while the institutions for the care of backward children have all too little facilities for these patients It can not be emphasized too strongly that there is great need for special institutions in which these unfortunates could be cared for and studied, and in which they could be prevented from propagating their kind and transmitting their terrible affliction to other generations. In these days of eugenics and of preventive medicine, the epileptic should receive his share of attention.

This brings to mind the appeal of the United Charities for relief for 15,000 women and children, which is referred to in an editorial in *The Lancet-Clinic* for June 3. The husbands and the fathers of these 15,000 are reported as being "insane, feebleminded, epileptic, deserted, imprisoned or sick." The medical profession, continues the editorial, ought diligently to follow up the demand, that the first three groups—the insane, the feebleminded, and the epileptic—be deprived, absolutely, through surgical operations, of the possibility of reproducing their kind.

WHY NOT TRY EMETINE IN CHRONIC DYSENTERY?

Distributed all over the country, there is a large number of persons suffering from chronic dysentery, some of them of many years' standing—a few of these cases dating back even to the Civil War. Every doctor knows that these cases can not easily be cured; in fact, they have become so obstinately chronic that they are the dread of the physician, who is likely to tremble every time one of these poor unfortunates comes into his office, begging relief.

Elsewhere in this number, we print a letter from a Missouri physician who has recently cured two patients who had been thus afflicted for many years; one being a man who contracted the disease during the Civil War. The remedy effecting the cures was emetine; and in both cases the results obtained were really marvelous.

We call attention to this doctor's experience, because we know there are hundreds of other physicians, especially throughout our southern states, who have had the same difficulties as our Missouri friend.

Why is it that so few of our doctors try the emetine-treatment? Of course, this alkaloid is not a cureall; it will not relieve every kind of bowel trouble; it won't change the average chronic intestinal invalid into a man full of "pep," nor will it otherwise renew his youth; but, even if in a small percentage of cases it does for a patient what it did in the two instances in question, it is certainly worthy of a trial.

We call special attention to this matter editorially, because we see the widening scope of emetine and are anxious that our friends in the field should make use of their opportunities to develop the values of this old-new alkaloid. Again we commend it to you for experimental observation.

PELLIDOL FOR FAVORING EPITHELIZATION OF WOUNDS

Pellidol, chemically, is the diazethyl derivative of amidoazotoluol, and constitutes a pale reddish-yellow powder, the physiologic function of which is, to stimulate the epithelization of wounds. One of its ardent advocates is W. Kaupe, of Bonn (*Muench. Med. Woch.*, Jan. 5, p. 32), has used it widely during the few years since its introduction by Kalle Q Co., and latterly tested it still more widely in his capacity as a surgeon in a military hospital.

When all else has failed the author has found that, almost without exception, pellidol caused the rapid covering over of wounds, purulent as well as others; while it never irritates (even in the case of infants) or produces other unpleasant symptoms, and, besides, scarcely discolors the skin and garments. Ordinarily, the new scar-skin is ideal, being soft and showing very little contraction, its influence in this direction being astounding, we are told. The author also believes this preparation to be moderately antiseptic, and declares that it represses exuberant granulation. Like scarlet-red, it proves highly efficacious in infantile wound-eczemas.

Kaupe employs pellidol in the form, principally, of a 2-percent-strength vaseline-salve or, also, zinc-oxide paste; and, for certain purposes, as a 5-percent white-bole powder. The latter, applied to serum-excreting wounds, quickly dries them up largely, however, through the action of the bole.

Miscellaneous Articles

Current Comment By A Country Doctor

On wearing black.—How many physicians have patients wearing the black of archaic custom, in order to show a grief that they feel—mayhap even one that they do not entertain with poignant distress? If the grief is a real one, it needs no advertising, no public demonstration; it is absolutely of the inner consciousness. The dead were never benefited by the wearing of mourning; they never will be. But the living certainly suffer no inconsiderable degree of harm from the donning of the somber-hued, publicity-giving tokens of regret for those who have passed beyond the present sphere of existence. It must be a distorted view that can imagine the departed as desiring other than the largest degree of happiness for those left behind, but the effect of black habiliments can not be other than bad, either from a psychological or a physical standpoint.

We all know that black clothing prevents proper penetration of the sun's rays. We also know that, in order to maintain a proper physiological balance, we must conform as nearly as possible to nature. Thus easily does the asseveration, that wearing of black mourning is wrong, reach a Q. E. D.

However, just here steps in prejudice, in the form of a desire to conform to custom—a custom, after all, even in the matter of mourning, tinged with the fear of "what will people say." Thus it is almost impossible to get people to view the matter rationally. How many of us have not pleaded with our women patients to stop wearing black or at least to wear black and white? Any use? No; the due ceremonial period must be observed, *a tout prix*.

Right here is an opportunity for some of our social leaders to establish a change in the fashion. If it is possible to switch custom from hoop- to hobble-skirts, certainly it must be feasible to change the mourning-color from the (in the light of modern science) physiological horror of black to something sensible.

Why, O why do not more men depart this life leaving behind them the imperative mandate that no black shall be worn? And why should not we family doctors sedulously promulgate this evangel?

As long as there exists the almost universal nonconformity with religious as well as philosophical teachings—so far as acceptance of belief that paying the natural debt to the grave is not a cause for continued sorrow, on other than selfish grounds—presumably some form of mourning will be worn. Why not something that will permit of passage of the actinic rays, at least to some extent?

Personally, this writer trusts that he will at least achieve the negative remembrance of a forgetting of his grosser faults as well as of his many incompletenesses, but he sincerely trusts that his going will not be advertised by his loved ones robbing themselves of the beneficent physiological action of the sun's rays upon their bodies.

The Metric System.—The appearance of the new U. S. P. and N. F. emphasizes the fact that we must come to the logical metric system. These two pharmaceutical official standards in the past have aided us toward working up to the new system gradually, and certain drug manufacturers have helped by apportioning their grain divisions in tablets so as to permit a ready transference to the French system; still, the vast majority of American physicians *think* in grains, ounces, and *teaspoons*—despite even the uncertain size of the average teaspoon. Even some who, through residence in a metric-system-using locality or from desire to promote that system, have at one time employed the Gm. and the Cc., have allowed themselves to drift back to mental maintenance of the cruder system of weights and measures. And this regardless of the fact that the one unit of measure is adaptable to all things of modern life, both commercial and scientific, save only the time and astronomical factors.

From the oriental birthplace of human knowledge came the sixty (or duodecimal) system, with its adaptation to matters chronological and astronomical; probably because sixty has the greatest possible number

of divisors, namely all the units save 7, 8, and 9; besides also 10, 12, 15, 20, and 30. Certainly not a bad foundation for measure itself. This latter method, being universally accepted, may never be changed, probably will not be, but all else must come to the decimal system, with its definite division of terrestrial surface as a unit, always capable of mathematical proof or reestablishment; not such an artificial thing as the weight of sixty grains of wheat of presumed average size and dryness gathered in the middle of the ear—the device resorted to by unscientific searchers for a trade-weight unit upon which today rest our antiquated system of weights.

Presumably everyone admits the greater value of the metric system, but we are being forced into it slowly against great popular inertia. This, although it is easy to remember that a Gram is 15.432 grains (absolutely the only weight or liquid-measure unit that need be retained in the head), and that this is also a cubic centimeter of water at maximum density; which is practically one-fourth of a dram or teaspoonful. So easy it is, so simple, that we imagine it complicated.

But even now, although the metric system was legalized in the United States by act of congress as long ago as in 1866 (now 50 years), and although it is this country's only recognized standard of weights and measure, there are localities where it would be as well to underscore Gm., or even to write Gram or Gramme, when issuing a metric prescription. So much for that inertia and fixed custom. Even in the eighties, with a longtime established decimal system, the writer has been asked by the ignorant class of Mexicans kindly to make himself plain by stating an amount in *reales* instead of *centavos*. The same individual would pay his passenger fare on a kilometer basis and for his freight transportations on a kilogram basis, but it meant to him a complicated process of reduction to an older system. The difference between this backwardness and our own is but one of degree. *"Si, senor, y favor decir cuanto es en reales."*

When to be glad one is not a medical nihilist.—These are the occasions: When the babies are suffering from divers forms of enterocolitis and one is exceedingly busy and distressingly anxious. When it is realized that the only "self-limitation" of these hot-weather troubles is the graveyard and a little white coffin, then it is good to remember that the skill of the physician with modern ideas is not limited to the use of the colon-tube and diet regulation—diet regulation based on experience, textbooks, and divers calorie-statistic-filled laboratory findings, but still a most difficult proposition. When the aconitine has gotten in its work by overcoming the fever-manifested symptom, and the atropine—oft repeated in small dose to effect—has brought the circulation to the periphery, as indicated. When the lobeline stopped the spasms and the sulphocarbolates cleaned out the bacteria-laden digestive tract. When the limited, but certain, field of usefulness of copper arsenite has again been demonstrated in that nonfebrile, atonic, green-stooled diarrhea. When emetine—O, pshaw, when the game has been played successfully, from starvation to Bulgarian bacilli, and it has not been necessary to end treatment by filling out one of those printed forms supplied by the state for the purpose of maintaining vital statistics. Yes, those are the times when a real doctor is glad that he knows how to use drugs.

Another way the typewriter helps.—Give the patient as explicit directions as possible, of course, when making the visit; then when he comes to the office to get the needed additional medicine take a sheet of letterhead and briefly write out all directions—this in addition to directions on prescriptions issued. There is often an argument in the household as to just what the doctor said they were to do. How convenient to have that little "printed" slip: "Stop the medicine in the glass as soon as he perspires." "Yes, he says, 'Give the dose of salts this morning, anyway, but give a small one if the bowels have already acted.'" Looks like a little thing. It is, but it is one of those little things that show care and efficiency, and that count. Takes more time, but it is perfectly justifiable to add this time to the cost of the medicine. It is a legitimate expense to the patient: saves having to go four miles and ask "doc" just what he had said. Try this out and see whether the writer is correct and if the added effort does not pay.

Capsicum.—This is official in the pharmacopeias of all countries, but neither in the form of powder, tincture, nor, yet, as "No. 6" has it received the degree of utilization to which its therapeutic value entitles it, and this mainly because of its "hotness." As a seasoning and condiment, it has practically a universal use in the tropics, especially where the predominating diet is of a not oversavory vegetable nature.

Right here is the keynote to the employment of the drug—to increase gastrointestina secretion, thus aiding the absorption of othe

drugs in atonic conditions. This is the cardinal indication, but its value as a stimulant of the heart should not be overlooked. When strychnine has been pushed until fear is felt of getting cumulative action, add capsicin, pushing it freely. Capsicin (or the oleoresin) can be given in tablet form without objection on the part of the patient. The value in gastroenteric atony of the alcoholic convalescent, in connection with other indicated agents, is but an example of red pepper's merit.

When immediate absorption of medicine is desired, especially when fear of cumulative action from possibly unabsorbed frequently repeated doses of a potent agent is feared, try capsicin. At times, continued use will result in slight rectal inconvenience, but this is seldom a factor to be considered; the "burning" will not last long and the remedy may be stopped if the complaint arises. The hepatic action of capsicum is a secondary one, but not to be disregarded, and its addition to malarial treatment is one of the most frequent fields of use.

That Wine of Cardui Suit.—Have you read the stenographic reports in the current numbers of *The Journal of the A. M. A.*? They make very interesting reading.

Departing from its usual custom, CLINICAL MEDICINE reproduces in its June number, under the heading of "The Arts of Peace," an article treating of modern chemistry and mainly of the NO_2 potent combination—of nitrating processes. This most accurate and readable treatise is well worth the space given it. If anyone has not read it with care, he should turn to his files and do so.

While the element by itself is nearly inert, organic progress on this globe proceeded only by the aid of nitrogen, as a slow-working factor, during the long eons before man took a hand in the more rapid change-working of bioplasm. Since the adaptation of gunpowder to warfare and the bursting of feudal night by the penetration of the Sir Knight's breastplate with arquebus in proletarian hands, down to the present Armageddon of commercial hell run wild, it is the nitrogen that has been essential to explosive activity of destruction. Its uses in phenylamin-dye production, agriculture, and medicine manufacture are now practically held in subordination, especially in Germany, where a system of high grade Teutonic efficiency, as wonderful as the national development of organic chemistry itself, has taken over the well-organized factories for production of constructive chemical products and has instantly adjusted them to the producing of destructive nitrated combinations.

Every thinking American would do well to read the article just alluded to. It carries a lesson that should be *soaked in* by a people who live in a country of limitless water-power and breathe an atmosphere consisting of about four-fifths nitrogen, and, yet, depend upon a lessening foreign supply for it. Depend upon the nitrate beds of Chile, deposits that made Lord North rich and were the particular commercial cause of war and hatred between Chile and Peru. If we Americans learn the lesson, it may place us in a position to adopt the only means that will enable us to maintain efficiency in the arts of peace, and, if we go into the war business, to save a fabulous bill to be paid in lives and money.

Some few of our fellow citizens there may be who still believe that the Germans are mainly noted for making the best beer. They probably do do so, being, as a nation, the best chemists and bacteriologists on earth.

Kindly do not accuse the typer of these thoughts of entertaining hyphenated racial prejudice. The hyphen was lost in a couple of hundred years of ancestral pursuit of religious liberty and witches, agriculture and Indians, not far from the environs of Massachusetts Bay, and eventual conclusion that economic environment would be boosted by complete, if delayed, disloyalty to one George Brunswick, at that time figurehead for a group of exploiters whose dealings were considered a bit too underdone by the then developing unhyphenates.

A. L. NOURSE.

Sawyerville, Ala.

DOCTOR COTTON

Doctor Cotton is dead. It is easy to say, and hard to realize. But he is dead. Did you know him? Did you ever sit under his ministrations? Then you loved him as I loved him. Doctor Cotton is dead, but not before he had solved life's mysteries for himself, as each of us must do. When on July 12, after a brief indisposition he rounded out almost his three score years and ten, he had been at work right up to the last day of his long and busy life, and literally died as he had wished to die with his boots on, quietly falling asleep in his own arm chair. Indeed, the evening before his death he had made an appointment to examine a child with heart trouble at the very hour when he, himself, succumbed to the same affection.

The funeral services held at the Warren Avenue Congregational Church, with a large audience of his friends and patients in attendance and amid a wealth of floral beauty, were peculiarly impressive. The eloquent and scholarly address of his pastor, Rev. Dr. Jenkins, rightly laid special emphasis upon Doctor Cotton's remarkable personality. To come into casual contact with him was to feel the largeness of the man, the irresistible force of his mind and character. To know him intimately was a liberal education in itself and a charming experience.

The manner of his passing was, in a measure, significant of the dominance of his spirit. In spite of evident failing heart and labored respiration, which he had experienced for some days upon slight exertion, the vigor of Doctor Cotton's mind was unimpaired almost to the last hour; his old time humor, his wonderful memory, his rich imagination and his unselfish thoughtfulness were with him to the end. And so, as he lay in the last repose of death, his noble features seemed in sleep; he would surely open his eyes and speak to us in familiar measured words, every one worth while. Who of us can ever forget that voice of his, so remarkably rich, that explosive yet melodious laugh, punctuating his contagious humor, and all those little mannerisms of facial expression and gesture—the smile of his eye, the way he carried his magnificent head? Who of us shall ever forget the delight of his reminiscences or the worth of his opinion and advice where wisdom was the need? Was there ever a man more fearless than he in his loyalty to what he considered vital truth and justice, or more unselfishly loyal to his friends? So strong upon me are these memories of him that I must thus digress from his funeral day to the man that shall always live with those who knew him well. His expression to a friend was genuine, right out of the marrow of his spirit. His influence was stimulating, dignifying and ennobling.

Following the brief service lead by Doctor Jenkins, Doctor Cotton's comrades of the G. A. R. paid genuine tribute to his patriotism. At Graceland Cemetery, Masonic ceremonies conducted by Garfield Lodge, of which he was a member, fittingly concluded this burial service in honor of a man who will be sadly missed by a large circle of patients to whom he had ministered. The memory of him will be cherished by a host of students whom he had taught, and by men and women with whom he came in contact. Among medical men of Chicago and its vicinity there is none other so widely popular and beloved as was Doctor Cotton. This fact is a splendid monument in itself.

No one of us can fill the place of any other man, however humble. Each leaves his own impress upon his time, even as his individual thumb-print is the symbol of his peculiar personality, indelibly different, all his own. But this is particularly true of the man who towers above his fellows in the bigness of his personality. The subtle combination of gifts and graces with which the Almighty endowed Doctor Cotton raised him high above us in personality and ability, yet he delighted in the level of his common fellow men. Fortunate are we who have enjoyed his fellowship and his friendship.

This is not the place for a biographic sketch. Those who are not already familiar with the details of his life and official relations can find an extended sketch of his life in the second volume of the Historical Encyclopedia of Illinois, published in 1915. And it will interest his friends to know that he had a recent photograph taken at Walinger's Studio, 37 South Wabash Avenue, Chicago. It is unusually fine, as perpetuating the smile and alert expression which he often turned upon us in conversation. As his face looks down at me from its frame upon my office wall, I am in good company.

ARTHUR M. CORWIN.

Chicago, Ill.

ENDOCARDITIS

Under all circumstances, it is a part of wisdom to examine the heart frequently throughout any infectious disease, from start to finish. The fact is, the heart is undergoing a most terrific strain, while the blood pressure is being increased, during the rapid process of invasion, by multiplied millions of bacteria, which latter condition also is rapidly followed by toxemia from bacterial ptomaines. The ptomaines produce the inflammatory action on the inner walls of the heart.

Of the infectious diseases, rheumatism and chorea head the list, as being predisposing causes of endocarditis. However, this form of heart disease has been the sequel of diphtheria, scarlet-fever, measles, smallpox, typhoid fever, pneumonia, and influenza.

The fact having been established clinically that endocarditis is a secondary disease, gives us a fair opportunity to investigate the history of the case, to determine the class of infection to which a given heart lesion is due. If from such history we find that the patient

has had frequent attacks of rheumatic arthritis, with more or less continued soreness between attacks, we are safe in accounting the valvular lesions of the heart as due to a continuous irritation of its membrane by a mixed infection, among which rheumatic bacteria predominate. By whatever infectious disease the predominant bacteria are manifested, we may determine the characteristic form of this heart disease.

I shall not here attempt to trace down the etiology of each of these infectious diseases; however, in the study of the disease of endocarditis as a whole, it is necessary to understand the predisposing causes and the etiological factors in each of the specified diseases characterized by a bacterial name.

If the ptomaines of some bacteria are more poisonous than those of others, is it not probable that we may expect to find, upon close examination of the heart, definite evidence of organic changes, such as irregularity of pulse, valvular murmurs, and dilatation of the heart itself?

Having determined that our patient has been the victim of a certain infectious disease, and knowing the general effect of the ptomaines of such bacteria on mucous and serous membranes, it is not so difficult to account for such symptoms as a true chill or succession of chills, and the fever may be either typhoid-like or intermittent or remittent in its character.

Why rheumatism and chorea should be responsible for more endocarditis than the others, may be accounted for by the difference in toxicity of bacterial ptomaines. Yet, even in some of the worst cases, careful and repeated examinations by competent observers may fail to detect any cardiac murmurs whatever.

Again, the simple form may give rise to embolism in different parts of the body, and may also be accompanied by pleurisy or pneumonia.

The great harm that simple endocarditis does the patient is not immediate, but consists in laying the foundation for ultimate changes in the valves which sooner or later impair the functional integrity of the heart.

In the matter of diagnosis, some of the following points may serve as guides, by contrast or by elimination.

First, does endocarditis exist at all? Secondly, is it simple or malignant?

Usually there is a distinct systolic apical murmur and the heart is enlarged, with a more widely diffused impulse than normal and an excited, though feeble, action. Functional cardiac murmurs are not sufficient to establish the diagnosis, as many acute diseases give rise to functional cardiac murmurs.

Typhoid fever may be accurately determined by the Widal test or by examination of the stools for typhoid-bacilli.

Acute tuberculosis has its hectic fever, rapid wasting, pulmonary signs; as a rule, no objective cardiac symptoms.

Malarial fever may be recognized by the discovery of the characteristic organisms in the blood.

Septicemia and pyemia exhibit symptoms identical with those seen in certain forms of malignant endocarditis — which disease has, indeed, been called an arterial pyemia.

During the months of January and February of this year, our community had its full share of an epidemic of influenza and grip. Among those cases which suffered from severe influenza-infection, causing laryngitis and also invading the trachea and larger bronchi, and which did not yield readily to medicinal treatment, were the kind which showed organic heart lesions.

The general symptoms of endocarditis that followed in the wake of influenza were as follows, the respiratory tract having been the primary seat of infection: Later developments showed loss of hemoglobin in the red corpuscles of the blood, loud systolic and weak diastolic beat of heart, and a feeble pulse. A growing tendency to prostration. The heart excited by trivial causes. Valvular murmur distinct, though irregular. The depleted strength, due to influenza infection, regained but very slowly.

As a rule, endocarditis following influenza-infection occurs in patients fifty years old and older, the bacterial resistance of the tissue-cells being less at this age. The residual energy at this age begins its decline, especially after undergoing the strain of resistance to some infectious disease.

Usually the best results for the relief of endocarditis following influenza have come from eliminative treatment and rest. It is highly necessary to get the liver to help rid the blood of ptomains and toxic material. For this purpose, I have found best results to be obtained from a good quality of syrup of juglans (butternut root). Give this remedy in doses of such size as the individual cases may require, ranging from 1 dram to 2 ounces.

Diet is an important matter. This does not mean starving the patient, but must be selective. Food should be well cooked. All milk should be pasteurized. Mild fruit-

juices are well borne by those who cannot bear milk.

In the early stages of influenza-infection, good results may be obtained by an influenza mixed-infection bacterin, following the rules carefully for its administration.

Endocarditis arising from other causes and designated by whatever name requires a most careful investigation of the etiological factors. It is important that the patient should be instructed in the conservation of his strength He must be taught that rest, and a well-directed diet, are going to be the greatest benefactors in the case.

The prognosis should be guarded, for you cannot promise a new heart. After the chronic or malignant conditions have developed and pathological changes have taken place, general resistance and vitality succumb eventually to this disease.

M. F. Woodard.

Bloomingdale, Ind.

[In his work on "focal infections," Rosenow showed that many of these cases of endocarditis, including some of very obscure origin, are due to the streptococcus hemolyticus. The point of entry of this organism is very often the tonsil, which explains the association and the preexistence of an acute sore-throat or of "rheumatism" in many of these heart cases. The prevailing "grip" of last winter was remarkable for the comparative rarity of the influenza bacillus *and the practically constant presence of the streptococcus and the pneumococcus.* It was this dangerous mixed infection that made the dreaded complications (of which endocarditis was one) so exceedingly common.

And the moral—the therapeutic one? (Of course every story must have a moral.) Bacterin treatment, with the streptococcus as the principal ingredient of the vaccine, should be at least *one* of the first thoughts in every acute case of endocarditis. Also, the doctor should examine the throat, the teeth, the appendicular region, and any other suspicious portion of the patient's anatomy, to find the real back-of-it-all cause.

Elimination, of course. Calcium sulphide, echinacea, and Crédé's silver preparation by inunction. Other things as indicated. Doctor Woodard's paper is a good one, and should set us all to thinking.—Ed.]

AN HONOR TO PROFESSOR LLOYD

We are greatly pleased to learn through our exchanges that the University of Cincinnati has honored Professor John Uri Lloyd by conferring upon him the degree of Doctor of Science. We know of no man who is more deserving of this honor than our friend Lloyd. No man has done more conscientious work, and few men have contributed more, through scientific study, to the development of the art of healing than has the good Professor, who personally is as lovable and worthy of admiration as he is erudite and constructive in the field of general scientific work.

We take this opportunity to give him the "glad hand" and wish him many years more of hard work and perfect happiness. For, is it not true that work and happiness are inseparable partners in this vale of tears? So, may Friend Lloyd have—and enjoy—enough of both.

CHLORAZENE, THE NEW ANTISEPTIC: CAUTION, SUGGESTION, PROMISE

Already we are beginning to receive inquiries concerning Dakin's new antiseptic, chlorazene (chloramine), which was described editorially in the last number of Clinical Medicine (page 647). We are perfectly willing to say, frankly, that we can not answer all the questions asked, since this antiseptic is new in this country and a sufficient volume of clinical reports has not yet been received. We can, however, throw light on some things, suggest lines of research, and point out possibilities.

First: Until we know more about it, chlorazene should not be taken by the mouth as an intestinal antiseptic. When Dakin described it as being "nontoxic," he had in mind its topical application as an external antiseptic. When swallowed in the tablet form or in strong solutions, it is decomposed by the hydrochloric acid of the stomach. Chlorine gas apparently is not set free, but a crystalline salt, called dichloramine by Chattaway, is precipitated, the action of which has not yet been studied. We shall report upon this later.

In writing prescriptions for chlorazene, or compounding mixtures containing it, the doctor should avoid acids, even such mild ones as boric acid. Also, avoid mixing it with alcohol, as well as with hydrogen peroxide or any other powerful antiseptic.

In devising chlorazene-containing mouth-washes, gargles, and the like, remember that this antiseptic is slightly bitter. This taste may be covered by dissolving the substance in one of the aromatic waters, such, for instance, as those of cassia, cinnamon, and

mint. If desired, the solution may be slightly sweetened with a small tablet of saccharin, or a little glycerin may be added.

The following makes a very pleasant mouth-wash:

Chlorazene	grs. 7 1/2
Menthol	gr. 1/10
Glycerin	drs. 2
Aq. Cinnamomi	ozs. 2 1/2
Aqua, q. s. ad.	ozs. 8

The slightly bitter taste disappears almost immediately, leaving behind a delightfully "clean" sensation persisting for hours. For throat use, we believe chlorazene should replace all other antiseptics.

The writer wishes to see chlorazene tried in pyorrhea, to swab out the "pockets" after removal of necrotic tissue. It should destroy the organisms almost immediately.

Topical applications of chlorazene to wounds and to the mucous membranes as a rule are borne exceedingly well—far better than any other antiseptic approaching it in germicidal power. Begin with weak solutions, remembering how powerfully germicidal this substance is. For ordinary throat and nasal use 1-5 of 1 percent is strong enough. In diphtheria and septic processes increase to 1-2 or even 1 percent—stronger if necessary. In wounds requiring moist dressings or irrigation, solutions of 1 to 4 percent may be employed.

The greater the amount of discharge from any wound or cavity treated, the higher the concentration of chlorazene called for. Serum, blood or pus should be removed, if possible, in the ordinary way, whereupon the wound may be irrigated or kept moist with the chlorazene-solution; this treatment clearing up septic conditions, so we are informed, in a really magical way. On surfaces presenting no discharge, a very weak solution is satisfactory.

Chlorazene may be mixed with petrolatum or other fatty base to make antiseptic dressings, and these are especially valuable when there is a tendency for dressings to stick. In England a 35-percent chlorazene gauze is on the market, but it has not yet been offered in this country.

One physician (who is also a stock-grower) has inquired about the possible use of chlorazene for sterilizing his milk-cans, milk-bottles, the hands of milkers, the teats of cows, and the dairy-room and surroundings generally. It ought to prove admirable for that purpose. In a solution containing 1 part of chlorazene in 5000 of water, Mr. Nielsen tells us, the typhoid-bacillus will "curl up and die" almost immediately. Such a solution could be made for a few cents a gallon, and, being practically odorless and apparently harmless, it should exactly meet the needs of those who are desirous of producing clean milk.

Another suggestion is, that chlorazene be added to drinking-water of doubtful quality. Also an admirable idea. Chlorinated lime is used to sterilize city-water by putting it into the mains at the ratio of 16 pounds to every million gallons; but that compound is very unstable and gives to the water an objectionable chlorine-taste and odor. On all counts, chlorazene will do this better. A 1 to 10,000 solution will be strong enough.

Chlorazene will also be used, we feel sure, to disinfect the stools of persons suffering from typhoid fever, infantile paralysis, and other infectious diseases; to put into the bath-water of the sick, convalescents, and nurses; to sterilize dishes, eating-utensils, and clothing. It is admirably adapted for these purposes, since it can readily be dissolved in hot, even boiling, water, without losing efficiency. Steam-vapors containing chlorazene have been employed by Colonel Gordon, of the Royal British Army Medical College, for disinfecting rooms and to clear the throats of meningococcus-carriers. He obtained remarkable results.

The preceding, presented briefly and, we trust, not too dogmatically, indicate some of the lines of promise for this new germicidal and disinfectant agent. We give them here, and at this time, since we hope our readers will be inclined to join us in working out the problems suggested.

We purposely avoid detailed discussion at this time, of the surgical uses of chlorazene, although this field is an inviting one and the one in which we have the most intense interest. We believe it wiser to avoid promises and eschew prophecy, being content to leave the evolution of technic and the outlining of exact indications to the many clinicians who are now experimenting with it in practice.

We can only say now that as an irrigant or application to septic wounds, chlorazene gives promise of proving most satisfactory. Reports are beginning to come in. For instance, a Boston physician reports its use on a gangrenous foot, which he believes it saved from amputation; a New York physician used it in an infected uterus, with retained lochia, which cleared up at once, although lysol had failed utterly; while another physi-

cian has employed it in a whole series of infected accident wounds with most satisfactory results.

In good season we hope to learn from the experience of many of our readers. We shall look to them to help us perfect the technic for its best employment. An antiseptic like chlorazene which combines practical nontoxicity with high germicidal activity *must* command attention.

SOME "KINKS" IN INTRAVENOUS THERAPY

Upon my return from the Spanish-American War, in 1900, I began to indulge my spare moments in thoughts about intravenous medication. It was not that I was more courageous than other medical men, nor did I seek to present the spectacular in practice, but the idea pressed me that quicker and more

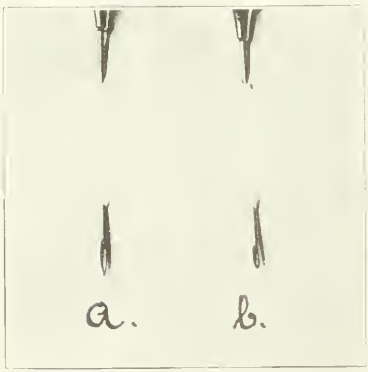

Fig. 1. (a) The usual point on hypodermic needle (b) Blunt point used by Doctor Ross in intravenous work.

substantial results could be obtained in this way than by the methods in vogue.

After a brief experience with the old surgical method of cutting down, ligating and opening the vein, I changed to the needle-operation. I am not sure that I was the first to use the needle for intravenous therapy, but I do know that the method makes it possible for every physician in the practice of medicine to become an intravenous operator. The following suggestions are offered to help the beginner in making an easy start in what promises to be the universal practice in the years to come.

The injection needle itself plays an important part in the success or failure of the beginner in intravenous therapy. All needles to be purchased at present exhibit such characteristics as are seen in (a) Figure 1—a long cutting surface and ending in a sharp point. Such a needle will pass through the vein without the operator knowing it. On the other hand, a needle having a short cutting surface and a rounded point, as seen

Fig. 2. First step in applying tourniquet.

in (b) Figure 1, will impart to the operator the sensation as of passing into space as soon as the needle goes through the anterior wall of the well distended vein. Any needle can be given such a shape by means of a carborundum stone, after which it is finished with a smooth stone and leather strop. The needle should be put into prime condition each morning before the day's work begins.

A pure gum rubber tube, 1-32 × 132, three feet long, doubled, makes, perhaps, the most satisfactory tourniquet one can employ. The venous circulation must be blocked completely without interfering with the arterial flow, in order to obtain the maximum of venous distention. The beginner will find it very advantageous to obtain the greatest possible distention of the vein before he attempts to insert the needle. The adjustment of the tourniquet must be made in such a way that when the operator has inserted the needle the tourniquet can easily be released with one hand. Observe carefully the steps as shown in Figures 2, 3, and 4.

In Figure 2 the first operation is shown. Before the second step is taken, as shown in Figure 3, the tourniquet must be put smartly on the stretch. Then reach under with the middle finger of left hand, engage the over-lapping tubes, and complete the operation as in Figure 4. A little practice will enable one to adjust the tourniquet quickly and just taut enough to accomplish the distention of vein required.

After the tourniquet has been applied, the field of operation can be made surgically clean by means of a little pledget of cotton moistened with alcohol. Some claim that this method of securing cleanliness is not sufficient, but in all my experience, aggregating thousands of cases, I never have had a single case of infection occur.

Before beginning the operation the air should be expelled from the syringe and needle in the usual way. Then pick up the skin and introduce the needle parallel to and directly over the vein. With the point of the needle resting on the vein, elevate the

Fig. 3. Second step—stretching and tying tourniquet.

distal end of the syringe slightly and enter lumen of vein. By releasing plunger slightly, the blood will soon back into the syringe; when this signal is observed, release the tourniquet and proceed to discharge slowly the contents of the syringe into the blood channel.

In all intravenous treatments in which only small amounts are injected, the patient may remain sitting with arm resting on the knee of the operator. Where larger amounts are given, using the gravity method the patient should always be placed in the horizontal position.

Fig. 4. The tourniquet applied.

In conclusion I will say that if the beginner will confine this practice to products put up by reputable pharmaceutical houses, following implicitly the directions given, he will have less need to fear trouble than from an ordinary hypodermic operation.

JAMES ROSS.

Chicago, Ill.

HOW I TREAT DIARRHEA

Overeating unseasonable foods, spoiled food, and drinking too generously of ice-water are the causes of nine-tenths of simple diarrhea, and these will bring us, as the summer advances, many patients who will be grateful for quick and efficient relief. While many of our patients will get well merely by absolute rest and careful dieting, there will be some in whom this condition will prove very obstinate and which try our skill to the utmost.

It is well to have some definite mode of procedure that will benefit all cases, and then to select our remedies to meet the various symptoms as they arise.

First of all, in this disease, as in all others, if we wish to be appreciated and receive the commendation of our patient, we must proceed to make him comfortable, and relieve the pain, tenesmus, and vomiting. This can best be done by means of a hypodermic injection of as small a dose of an opiate as will bring

about this result, or, if the patient objects to the needle (as I find many do), 1-8 grain of codeine may be given by mouth. Also a suppository of 1-6 grain of aqueous extract of opium and 1-12 grain of extract of belladonna may prove quite efficient.

Wash out the colon with physiologic saline-solution. If we still suspect putrescing food in the intestine, remove it with a generous dose of castor-oil or a saline laxative. When the bowel is clean, keep it disinfected with the sulphocarbolates.

Do not encourage your patients to take food too soon. Give the irritated alimentary canal time to repair the damage and resume its normal condition. Order toast-water, barley-water, albumen-water (at first); then the soft foods, gradually getting back to the ordinary diet.

At this stage, I find a course of the Bulgarian bacillus tablets very beneficial, and I continue these for several weeks. The above procedure is for the simple diarrheas, but, in connection with the remedies indicated, it will prove beneficial in all varieties.

I. S. Bretz.

Cleveland, O.

SUGGESTIONS ABOUT USING EMETINE

These days we read a great deal about emetine, the alkaloid of ipecacuanha. In 1686, this Brazilian root obtained a considerable reputation in Paris, through a celebrated physician and his student Helvetius, who gained some fame by his successful treatment of diarrhea and dysentery. Nicholas Dalbery, later, gave it in moderate doses for hemorrhage. The main active principle, emetine, was known as far back as 1820, when it was obtained by Pelletier and Caventou.

Doctor Hempel says that ipecac affects primarily the solar plexus and the pneumogastric nerve. It irritates these centers, producing vascular erethism. Hence, it is useful for hemorrhage and inflammation of the bronchial tubes. Its action upon the pneumogastric nerve is remarkable, affecting all the branches as a spasmodic irritant, resulting in asthma in the air-passages, and in vomiting with regard to the stomach. Some people show an idiosyncrasy against ipecac, and the slightest amount of powdered ipecac will produce an asthmatic attack.

Taking up the group-study of the drug, Hempel mentions nosebleed as having been cured by ipecac.

In the chylopoietic group: Hematemesis, attended by nausea, diarrhea, with fermenting stools, hemorrhage from the bowels, profuse bleeding from hemorrhoidal vessels, hematuria, urinary urging, and spasmodic retention of urine.

In the sexual group: hemorrhage from the uterus, metrorrhagia and menorrhagia, accompanied by nausea and vomiting.

Miscarriage may be prevented by means of ipecac. (Why not emetine?)

Respiratory and fever groupings show many indications for ipecac. Soon emetine will find its place in treating these conditions. In intelligent hands, ipecac is a valuable drug, and it is little wonder that emetine possesses some of the valuable characteristics of the mother drug.

W. N. Fowler.

Kalamazoo, Mich.

DOES IT PAY?

I have recently passed through a rather enlightening experience that seems worthy of recording. I am a member of the Medical Reserve Corps of the United States Army and have been on active duty for some time, helping out "under emergency." My hours were from 5:15 a. m. until 9:30 p. m., counting out the actual time required for meals. Not alone did I have to put in these long and sometimes onerous hours, but I was personally responsible, to a certain degree, for the care and maintenance of a large camp. For this service, good or bad—as it may have been—I was paid at the rate of $5.55 per day, out of which came $1.00 per day for mess-charges.

It was necessary during this time to employ certain civilian labor, and I recommended for this work a man who for years has given me the best of service in his line. For this work, which required no headwork whatever—consisting simply in following my instructions—this workman was paid $4.00 for an 8-hour day, in addition to which, his meals were furnished free to him by the company-mess where he chanced to be at work.

In other words, with all of my many years of professional and scientific training, I received exactly 50 cents per day more pay from the good old U. S. A. than did my workman. The latter worked eight hours per day, the law not allowing him to work more; I worked, and worked hard, from twelve to fourteen hours every day, and for these my services was paid 50 cents per day more than was my own ordinary laboring man.

I am not "kicking" about what I personally was paid (for the love of the work I would be willing to do it without pay), but I think it worth while to point out this particular case, as showing just how "downtrodden" our working-men are. This man could, and would, willingly have worked ten, twelve, sixteen hours every day, to his own as well as to the Government's gain; but, no, our labor unions prescribe an 8-hour day, and that was all he was permitted to work—and then he received only 50 cents less for eight hours' labor than a highly trained man was paid for working hard for twelve hours.

Funny, isn't it? But, then, one needs votes—and the professional man can marshal but a very few.

EXPERIENCE.

EMETINE IN UTERINE HEMORRHAGE

I have under my care a woman, 71 years of age, who had uterine hemorrhage caused by a fibroid tumor; however, in a consultation with another physician, it was decided that, on account of the patient's age and condition, an operation was out of the question.

Then I gave two doses of emetine hydrochloride, each four granules of 1-64 grain, one hour apart, and this controlled the hemorrhage; in fact, the first dose had acted before the second dose was given, and inside of two hours after the second dose the flooding ceased entirely. I asked Doctor Belknap, the consultant, from Prairie City, if he had ever used emetine hydrochloride hypodermically for hemorrhage, and he answered that he had done so once, in a case of pulmonary hemorrhage, and that it had acted so promptly that it scared him.

J. CAMPBELL-MARTIN.

Dayville, Ore.

[This is an interesting instance of the promptness with which emetine hydrochloride sometimes will act in arresting even very alarming hemorrhages.—ED.]

CHRONIC DIARRHEA TREATED WITH EMETINE

In June, 1915, a young man came to me complaining of having chronic diarrhea, and, after looking him over, I decided that this was a good case for emetine. I told him that, if he would come back in about four days, I would have the medicine that I wanted to use. At the appointed time, I started him on the emetine-course, administering, hypodermically, a dose in the morning, and another one the same day in the evening. I continued this treatment for three days, after which I gave him only one dose a day, until he had received twelve doses in all.

After he had the fifth dose, his bowel-movements began to check up, and by the time he had the last dose he had to take a dose of castor-oil to get his bowels to move. After this, his stools became normal, and they have been moving once or twice daily since then. Digestion now is good and the man has gained 40 pounds in weight in about six months. This man had been a sufferer for over five years before I put him on the emetine. Believe me, this cured man is as happy as happy can be.

Having had such good results in this instance, made me think of another sufferer from chronic diarrhea, and, so, I told that man about the results I had with the former patient. After talking the matter over with him, he decided to try the cure. I sent for another supply of ampules of emetine, using it the same as for the other patient.

To my great surprise and pleasure, I obtained equally good results from the alkaloid in this case, and the man is cured. This man has had the trouble for forty years; got it in the war; now he is rid of it. He also has gained flesh since he has been cured. I treated this man ten months ago, and see him every now and then, and he is always talking about the "wonderful cure."

W. R. SCHOEN.

Gordonville, Mo.

[We have referred to Doctor Schoen's experience in an editorial, published on page 772, which see.—ED.]

ANOTHER CASE OF HYSTERIA

I was much interested in the cases of hysteria reported by Doctors Bennett and Spradling in the August number of CLINICAL MEDICINE. Hysteria is certainly a "disease-animal of variegated hue," as you put it in commenting on these cases. One such instance that came under my observation a few years ago will bear out the truth of that statement.

One hot summer afternoon, I received a hurryup call to see a woman who, the messenger told me, had suddenly fallen unconscious out of her chair while she was talking

with her husband. Upon arriving, I was informed that she had not shown any symptom of returning consciousness since she had fallen and lay on the bed, having made neither movement nor sound.

I found the patient lying on her back, with eyes wide open and gazing at the ceiling. The pupils were normal in size and regular. Touching the conjunctiva elicited no reflex of the lids. I could detect no evidence of paralysis in her limbs. Pulse, temperature, and respiration were normal. The woman was about 25 years of age and the mother of three children, and her general health was good. She paid no attention to questions addressed to her; pinching the skin and pricking it with a pin elicited no response.

Here was a case that certainly was puzzling. I knew something of the patient's personal and family history, however. The family has a somewhat neurotic history, one member being an inmate of an institution for feebleminded, and she herself is considered by her husband to be "off," to some extent, in religious matters. She is a firm believer in the "laying-on of hands" and in the rubbing-on of what she calls "holy oils"—oils that have been blessed by the elders of the church to which she belongs.

Being aware of this neurotic tendency, I suspected either a shock or else plain hysteria, and, accordingly, questioned the husband closely as to the onset of the attack. He then told me that she had been very desirous of going to Council Bluffs, to visit some relatives there, but that he had objected. Then, while they were arguing the matter, she suddenly keeled over without warning.

Taking my cue from what the husband told me, I decided to try the effect of a little "mental" treatment. So, I fished out from my medicine-case a few placebo tablets and handed them to the husband, telling him to give one to his wife occasionally, at the same time saying, in the woman's hearing, that there was nothing serious in her condition—"but," I added, "if she doesn't come to very soon, she will not be able to go to Council Bluffs." I repeated my directions and the warning before leaving the patient's presence, and then departed. I had barely climbed into my automobile, however, when the husband came running out of the house. "Oh, doc, doc," he called, "she's all right now; she is sitting up and can talk!"

I have sometimes thought that this case would have been a great one for our Christian Science friends to have got a hold of. They would, most assuredly, have accomplished a miraculous cure.

F. S. SPEARMAN.

Whiting, Ia.

INCIDENTS FROM A DOCTOR'S PRACTICE

The August number of the *Critic and Guide* is unusually interesting. The editorials are powerful. Take for instance the following, entitled "Incidents from a Doctor's Practice":

A very tiring, anything but pleasant, and but poorly remunerative day. It was 9 p. m. when he could have his cold dinner hurriedly, then he had to make some more calls and at 11:30, after fifteen hours' work, he could at last go to bed and stretch his tired limbs. He fell asleep instantly. Did he hear a bell or did he just dream? Perfect silence, and for a moment he sweetly hopes, that he just dreamed or imagined that the bell rang. But in a few moments there is a loud, persistent, unmistakable ring — the sound reverberating throughout the house. With a sinking of his heart he recognizes that he is wanted, that he must leave his warm bed, and go. He goes to the window. "Oh, doctor, please come at once; baby is sick." He looks at the clock. It is three. "Couldn't you wait until morning?" "Oh, no, you must come at once. The baby can't breathe; it is choking."—He hates to go. But *noblesse oblige*. He dresses hurriedly, and sails forth with the frantic mother.

They walk fast for about ten blocks, then it is three flights up—he can hardly follow the mother—and when he arrives at the poorly but neatly furnished rooms, illuminated by a smoky kerosene lamp, he finds the child, breathing stertorously, and shaken by violent, frequent convulsions. The child's struggles are pitiful to see, and it seems on the point of strangling. Every stertorous breath threatens to be the last one. There is not time for a laborious examination, but the thermometer shows a temperature of 106°. The doctor takes off his coat, rolls up his sleeves and begins to work. He gives the little boy a prolonged cold enema, which brings away a lot of undigested material puts him in a luke-warm bath, gives him an emetic, and then a mild antipyretic powder, and after working for an hour he has the satisfaction of seeing the child calm down and finally fall into a peaceful sleep. The mother's face, drawn and careworn only a little while before, is now calm, with a faint suspicion of a smile over it. The father, who during all that time was smoking, in a sullen mood, also seemed to be pleased. And the doctor was highly pleased.

"An unpleasant, difficult profession medicine is," he mused, "but now and then we have the satisfaction of *knowing* that we have accomplished some actual good, have relieved pain, removed anxiety, restored health and saved life. And how valuable some lives may prove to humanity." And as he mused thus, while packing his grip and putting on his overcoat, he heard a question which acted on him like a sudden dash of cold water. The question asked by the mother was: "How much?" It seemed to him so incongruous, so unexpected, so out of place. Service like this, he could

not help thinking, should not be paid by money. It cheapens it and vulgarizes it. The state or the community should support the doctor, and support him well. "How much?" How horrid, and if he *was* to be paid, then his services, which included a broken night's sleep, which will make him tired and inefficient for the next day, were worth at least fifty dollars. But he looked at the rooms, at the mother and the father, and said "Three dollars." —"All right. I will bring the money around Saturday night."

But she did not. Neither that Saturday, nor any other Saturday. The doctor thinks the mother would have been glad to pay, but the father's wages were small, and after paying up the grocer and the butcher, and spending a little on tobacco and beer, the father did not have any money left for the doctor. And the doctor has enough anyway. The good people don't know that some doctors have relatively less than the poorest workingman—have a harder task to make ends meet.

THE CAUSE OF PELLAGRA, AS SEEN BY A VETERAN

I see so much lately in regard to pellagra, written by men who, as it seems to me, simply want to get their names into some medical journal, that I felt that I would hold back and say nothing; however, at last I have come to the conclusion that I am doing wrong to remain still any longer. And right here I want to say that I have seen and treated and have handled more pellagra-cases than has any surgeon or physician now living in the United States and, possibly, in the world. I had sixty-eight surgeons under me at the celebrated prison at Andersonville, Georgia, during the war between the states, all of whom are dead now, I being the only one left. I have seen more pellagra in forty-eight hours than any physician in the United States ever saw in his life or ever will see. We had nearly 10 thousand deaths at Andersonville from pellagra, and we investigated the disease in every way; and I maintain that there are more misleading articles published as to the cause of it than concerning any other disease that I know anything about.

During the summer of 1864, we had 36,000 prisoners in Andersonville prison, which was built to hold only 5000. So, you can readily see the crowded condition in the prison. I arrived there on the 4th of July, 1864, to take charge of the hospital. Shortly afterward, Professor Joseph Jones (who died at New Orleans a few years ago) was sent there, to see if we could make any discoveries as to the cause of the disease. We examined everything that we could conceive as being the possible cause, and finally we came to the conclusion that the whole thing was produced through the insanitary and crowded condition of the prison.

Three regiments of Confederates were guarding the prisoners, and not one of them ever had pellagra. Captain Wirz, General Winder, and I had from 300 to 500 prisoners out on parole, and not a single case ever occurred outside of the prison, after the men had been out of the prison a week or ten days. No surgeon or any one on the outside ever took the disease—yet, we all had to eat exactly the same diet—every medical officer and all had the same to eat. We could not get anything else, so, you can readily see that, if it had been corn-meal and bad provisions, the men on the outside would have had the disease, precisely as those inside of the prison.

Now, whenever you see an article, saying that the disease is produced by bad diet, you can rest assured that the writer of it did not know what he was writing about. I see in the August number of CLINICAL MEDICINE statements that are entirely wrong and misleading. Now, we have had quite a number of cases, and almost every one of the victims has been among the very best citizens we have, and some of the wealthiest. So, you can see that it cannot be caused by bad diet. The poorest people in this part of the country have had no pellagra among them at all.

I don't believe that the cause of pellagra has ever been discovered as yet, but, when it is, it will be found to be a microbe, or something of that nature, Doctor Goldberger's theory to the contrary notwithstanding. I am a young physician yet—only 32 years old, and have practiced medicine only fifty-eight years.

W. J. W. KERR.

Corsicana, Tex.

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[Doctor Kerr's letter is very interesting, and his story of medical experiences at Andersonville would certainly make good reading. He should prepare it while he is still "young." We were under the impression that the prevailing illness at Andersonville was scurvy. It was so classified in the medical records of that day, but, of course, pellagra was not then known, so we suspect that Doctor Kerr's diagnosis is the correct one, even though it has been made a trifle late.

We decline to be inveigled into a defense of the Goldberger theory as to the etiology of pellagra; indeed, we are inclined to be of Doctor Kerr's opinion, since the evidence submitted does not seem to us convincing. For the evidence, see comment on Doctor

Hilburn's article, page 695, August issue.—Ed.]

THE MENACE OF TUBERCULOSIS

Down here among the Indians, we have many victims of tuberculosis. Persons thus afflicted come into town to trade, to see the doctor or just to pass away time, perhaps in the pool-hall. These men expectorate on the floors of the public establishments and on the sidewalks, the dried sputa becoming a possible cause of infection to every susceptible individual. But, what I wish to bring out is: Are scarlet-fever, smallpox, measles, and diphtheria more dangerous, more to be dreaded than tuberculosis?

My answer is, No. All these infectious diseases may be said to be less dangerous, because they are more amenable to treatment and less insidious in their attack. Yet, we quarantine all these patients and put them under more or less compulsary police regulation and treatment.

Why, then, in the name of common sense and of humanity, do we let that other, the more dangerous disease, go loose, untrammeled, unguarded?

Is it because there are so many nice, rich, influential *white* people also afflicted? What difference should that make?

Three years ago, I went to some of our state legislators and put this question up to them, and asked for some legislation that might start the way to control the spread of tuberculosis in our state, at least; and, while they all confessed the need, they all objected that it would be "class legislation." That came primarily because I had been talking about the Indians. But, when the attempt was made to include the whole population under one head in this respect, there was nothing to say, except, "We'll think about it." And that was the end, so far.

If there is any virtue in sanitary police control of infectious diseases, then there ought to be some way to get a statewide, nationwide law that would be as protective with regard to tuberculosis as to any other of the dangerous diseases.

If a Vanderbilt had a mad dog, it would be shot. If an Astor had smallpox, he would be quarantined. But, if he had tuberculosis—what then? It may be that there are people, few and seldom seen, who would destroy all possible causes of infection if they were sick. But, the consumptive often will not admit that he has tuberculosis, until possibly he has infected thousands, while others know that he needs to be under proper control and medical care.

Why are we so backward about this class of patients? Has not the medical fraternity enough influence to secure the passage of laws that will protect the innocent from this as well as from other, less dangerous, diseases? All tuberculosis patients ought to be compelled either to remain at home under proper care and healthful conditions or, if this be not possible at home, should be sent to some suitable sanatorium, where they can have a chance to get well without spreading the disease. Certainly, there is no hope of victory until we can control the patient. Who knows how to bring this to pass?

C. A. Freeman.

Geary, Okla.

[Undoubtedly tuberculosis should be a quarantinable disease in some communities. However, it isn't the patient himself who is a source of danger—it is his sputum. As Doctor Freeman has so clearly pointed out, it is the indiscriminate spitter who spreads tuberculosis. If we can "get" him, it will not be necessary to saddle everybody with a rigid quarantine. There ought to be a campaign of education, supported by rigidly enforced sanitary legislation.—Ed.]

HARDSHIPS IMPOSED UPON FOREIGN PRACTITIONERS BY THE ANTI-NARCOTIC LAW

Since the passage of the act forbidding the transportation of poisonous drugs through the United States mails, a very severe hardship has been imposed upon all of us doctors, medical missionaries, and dentists in Central America. Now, we cannot get H-M-C, aconitine, heroin, physostigmine or any of the potent remedies so necessary in our daily practice. We cannot get them by parcel post, and no express company is operating between the States and these Central American countries; thus, the only avenue left for us is by freight. But freight is very slow and uncertain; to some ports it comes but once a month, although to a few it comes twice a month. Thus, when we need a few tubes of hypodermic tablets, it seems absurd to think of being forced to make a freight shipment of it—considering the great expense of the consular invoice, the freight costs the same as for 100 pounds, the time consumed. It is fearful! But, the time wasted is the most important factor.

Yet, there is no other avenue open to us in Central America.

Is it not a great injustice that the States should permit legislation that so completely ties our hands and makes it practically impossible for us to get the actually needed remedies with which to treat our patients? Why should the mail prohibition be placed on foreign shipments? The parcel-post system is a very convenient means for us to bring to us our requisite supplies of tablets, and the like, as needed. It insures our prompt receipt of supplies, and we may get them frequently, just as wanted. Through the slow method of freight shipments, and the even much longer delay often involved in getting goods passed through the customs offices in these countries, there often is caused much loss from deterioration. More than once, I have had to wait as long as four or even six months before getting my freight shipment.

Can you not, and will you not, take an interest in this matter in behalf of us United States citizens who are practicing medicine, surgery, and dentistry in these foreign countries? Will you not use your influence to get the restriction removed from the shipment of these "prohibited" drugs in parcel post to foreign countries? If you will take an active interest in this matter and can succeed in getting the parcel-post system opened to us in foreign countries again, you not only will be doing a great good for us all, as professional men, but will confer a benefit to the cause of humanity in the foreign parts of the world, and there will be a great company who will rise up and call you blessed.

A. J. Hetherington.

Guatemala City, Guatemala, C. A.

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[We quite agree with Doctor Hetherington as to the inconvenience and injustice of which he so forcefully complains. As a matter of fact, we already are doing everything in our power to secure a rational revision of the postoffice regulations, so as to permit dealers to mail these necessary tools of the doctor's trade to physicians in all parts of the world at a minimum of inconvenience. Thus far, however, we have been unable to secure any relief whatever from the postoffice department, although every effort has been made by the various associations of drug manufacturers in this country to prevail upon the officials to modify the rules.

We are informed that it will be necessary to secure the passage of a special law by congress to give relief. A bill of this kind has been prepared and, we believe, has been introduced, but the pressure of administration legislation, including bills for the army and navy increase, have occupied the attention of congress, to the exclusion of virtually everything else.

We bring this matter to the attention of the medical profession of the United States, so that they may aid us in our efforts to secure a modification of existing legislation and regulations. The present laws regulating the sale of poisonous drugs are still in a decidedly empirical stage, and it is unavoidable that during this period much hardship must be suffered by individuals. In time, the problem undoubtedly will be solved satisfactorily.—Ed.]

THE JOYOUS LIFE OF THE COUNTRY DOCTOR

I have lately been a high-water victim. I lost all my buggy-equipment in Salt Creek a few weeks ago; and my grips are still under seven feet of cold water. But I fared better than my neighbor, Doctor Neffner, of Weisburg, who lost his life in Tanner's Creek but a few weeks before.

Fortunately, I had a driver with me who weighs over 200 pounds, so, our combined weights kept the buggy on the bottom. The horses were in over their backs, with only the heads sticking out of the water. It was broad daylight and we had crossed the same ford only about an hour and a half before; but it had risen in the meantime, and we did not recognize the danger from the other bank. I have run many narrow risks, but this was the closest I ever came to the "chilly waters."

The roads have been impassable for automobile traffic till just within the last few days. I sat back of a team of horses for three months. I hired a driver and got into a closed buggy. I have done a banner winter's work, but I sometimes feel like asking the question, "Is it worth the hazard, after all?" But I keep on working just the same.

Excuse this letter. It is given to you as a gleaning from the great army of hard-working country doctors, who have made your success possible. I know that I am addressing friends.

Philip L. Mull.

Oldenburg, Ind.

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[A letter like this should be a revelation to many a city doctor, who knows but little of the difficulties of country practice. It brings

back memories to me. Does it to you, brother?—Ed.]

A GOLDEN WEDDING

I have just received a card announcing the celebration of the fiftieth anniversary of the wedding of Dr. George T. Netherton and wife, of Gallatin, Missouri. At the earnest request of their two sons, Drs. C. O. and E. J. Netherton, celebration was arranged to be held in Dockery Park, of that town. There was a lunch, good music, and inspiring talks by a number of speakers.

Doctor Netherton is one of our oldest and best friends and a reader of this journal for many years. We regret that we could not have been present on this occasion to assist in doing to him and his good wife the honor they deserve.

ALCOHOL AS A REMEDY: A REJOINDER TO DOCTOR BOWERS

I have been somewhat interested in Doctor Bowers' article which appeared in the July number; however, it strikes me that the Doctor either is wilfully prejudiced or wofully ignorant of the status of the various "cerebral stimulants," among the first of which is alcohol. He says: "The physiological stimulant influence exerted by alcohol upon one dangerously ill might on occasion weight the scales of life in such a one's favor. But, if this patient had the same faith—as many have—in an amulet, in pills made of bread or any other inert or innocuous substance or treatment, he would derive from it the same or even greater benefit."

What rot! In the first place, a person dangerously ill is not supposed to know what is being administered; and "faith" is not a factor other than that which the patient has in his medical attendant. Doctor Bowers evidently is one of those who believe that, if you but have faith, "even as a grain of mustard," you shall move mountains. However, you can not move even a mustard-seed without applying some physical force. But, Doctor Bowers says later, "alcohol is not a stimulant." Does he not know that all narcotics are stimulants in their first action, and that, if properly controlled, they will exert that stimulant effect alone?

Fifty years ago, I wrote a thesis on cerebral stimulants, and I find that the first article then considered was alcohol. My introduction there reads:

"This class of stimulants, termed narcotics by most writers, acts chiefly upon the brain, though at the same time influencing both the circulation and the spinal nervous system. Like all other stimulants, their primary impression is followed by a proportionate degree of depression, which becomes excessive and dangerous when the dose has been very large."

In therapeutic doses, alcohol is both stimulant and diaphoretic, and its action upon the circulation is marked. I say this from actual experience in many serious cases, notably of pneumonia, where the pulse has been threadlike, hard, and fast. After a full dose of whisky, say, 2 fluid ounces well diluted with water, I have tested that same pulse in less than ten minutes and found it full and soft, with the further effect of reducing the temperature and producing a moist condition of the skin.

As an antiseptic in the treatment of wounds of every description—contused, lacerated, incised or punctured—alcohol stands without a rival; nor have I ever heard this assertion questioned, although it has been the more recent practice to use all sorts of advertised and even proprietary antiseptics, often to the harm of the patient, but to the pecuniary benefit of the manufacturer. Surgeons, at present, seem to have gone "daft" on the subject of tincture of iodine for dressing wounds; but, iodine is soluble only in alcohol, and whatever good results is due to the alcohol, while the iodine is irritant and caustic and indicated only, should necrosis of the tissues threaten. If alcohol alone is used as a dressing, necrosis need not be apprehended—and I speak from half a century of experience, military and civil. In a meeting of military surgeons, held in Baltimore some time ago, a prominent surgeon offered a resolution declaring that alcohol is a poison and should not be used under any circumstance. At least this was the gist of it. After some discussion, pro upon the part of the introducer and con on the part of several present, the surgeon asked permission to withdraw his resolution; which was granted without a dissenting voice.

Doctor Bowers accuses alcohol of being largely responsible for catarrh of the stomach. I must take issue with him on this point, inasmuch as I can cite two examples in my own family contradicting this assertion. My own father suffered from catarrh of the stomach and did not and could not use alcoholics at all. My wife has suffered for years from catarrh of the stomach, and she

has never used alcohol either as a medicine or as a beverage.

Now just a little family history and I am done. My grandmother's father on my father's side drank nearly a quart daily of apple-brandy made by myself and smoked a pipe almost incessantly. He was a vigorous man and had no sickness, except for an occasional attack of gout. He lived to the age of 108 years, and died of pneumonia induced by exposure. My paternal grandfather was not a drinker, in fact, was a total abstainer; nevertheless, he was never without some acute trouble and died at the relatively early age of 63 years. My father resembled his father in every respect (5 feet 6 inches in height, and between 170 and 185 pounds in weight), was a total abstainer, suffered from catarrh of the stomach and other ills, and died from apoplexy at the age of 63. My mother was of small stature, quick and nervous in movement. She had five children, all of whom, except myself, died in infancy. She was a lover of good wine, and she indulged in it, sparingly, all her life. She was healthy and came of a longlived family. She died of sarcoma of the liver at the age of 76.

I myself resemble my great-grandfather in appearance, being 5 feet 10 inches in height, and averaging 165 pounds in weight. I have had only one attack of sickness—an ascending infection of the kidney, due to an infected catheter used for an acute retention of urine, which was caused by lack of opportunity to empty the bladder at the time. I have drank whisky almost daily for sixty years, yet, at the age of 76, I now am strong and healthy. Two years ago, I underwent an operation for epithelioma of the tongue, was in the hospital ten days, recovered perfectly, and no signs indicate a return of the disease at this time.

I am a believer in alcohol, as I am in all the good things which God has given us in such profusion. On the other hand, I decry its abuse, as I do that of any other good thing. And, from the Christian standpoint, St. John gives the world an example, in the second chapter in his gospel, by telling what his Master did at the marriage of Cana. Temperance and moderation in all things is one of the strongest items in my creed.

W. T. Thackeray.

Fowlerton, Tex.

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[Doctor Thackeray is an old and dear friend and former colleague of the editorial staff of Clinical Medicine, and so we are very glad to hear from him at last to give him an opportunity to express his views on the alcohol question. Yet we cannot agree with him. While we can admit that the alcoholics have their uses, we are in the main in accord with Doctor Bowers. The harm done by whisky far outweighs any good it may do. We have explained our reasons for this opinion so often that it is hardly necessary to go into the details again at this time.—Ed.]

A BOOKLET ABOUT INFANTILE PARALYSIS

We have just received a copy of a pamphlet, issued by the Chicago Department of Health, concerning acute anterior poliomyelitis. The foreword is written by Dr. John Dill Robertson, commissioner of health, while the body of the text contains a discussion of "the nature, manner of conveyance, and means of prevention of infantile paralysis," prepared by Dr. Simon Flexner, director of laboratories of The Rockefeller Institute for Medical Research.

We have no doubt that Commissioner Robertson will be very glad to send a copy of this pamphlet to any one asking for it. Enclose postage stamps.

A GOOD OPENING IN MINNESOTA

We know of an excellent location in Minnesota for a homeopathic physician. If any reader of Clinical Medicine is interested, we suggest that he write us at once.

DEPARTMENT OF EXTENSION

From time to time we have published in this department little articles for distribution by physicians among their patients. These articles are for the purpose of extending scientific medical knowledge among the laity. Some of the articles serve the physician by saving his time, as, for instance, the leaflet on disinfection of the sick-room. Others serve him by increasing his power to get his instructions accurately carried out, as, for instance, the pamphlet on the management of pregnancy.

The present article will be useful in relieving the layman's mind the danger of acute anterior poliomyelitis, while gratifying his craving for information concerning a topic that of late has occupied a place on the front page of the newspapers.

We grant permission to any physician to reprint [illegible] use. If we

receive requests for reprints, we will, ourselves, procure them and supply them at approximately cost.

NATURE AND PREVENTION OF INFANTILE PARALYSIS

Infantile paralysis probably has afflicted human flesh for many centuries. The disease was recognized as a distinct malady by the German observer von Heine, who published a paper in 1840 describing this form as one form of paralysis. The disease usually affects children, although it may occur in grown persons. It often causes complete loss of use of one or more limbs, and sometimes paralyzes the muscles involved in respiration, thus causing death. When the patient recovers, there is usually some improvement in the paralysis during the first six months; whatever damage remains after twelve months is apt to continue during life. The paralyzed limb is always limp and flaccid, and usually more or less bluish from poor circulation.

Infantile paralysis, or poliomyelitis, as it is called in scientific language, is an acute infectious disease The contagious agent lives in the mucous membrane which lines the nose and mouth, in the gray substance of the spinal cord, and possibly elsewhere in the body. There is no reason to believe that the germ is ever found in any of the lower animals. The virus or poison enters the human body through the nose or mouth and in some way penetrates to the spinal cord. The poison has a peculiar power to damage the large cells in the spinal cord which act as electric batteries for stimulating the muscles to action. Some of the large cells are destroyed as a result of the poison, and once destroyed can never be replaced. The muscles controlled by any group of these large nerve cells can never be used voluntarily after the destruction of this group of nerve cells. Always a certain number of these cells is damaged temporarily, and they may recover, causing the partial restoration often seen during the first six months after an attack.

During the early weeks after an attack, manipulation and electric stimulation may delay or lessen the recovery of the nerve cells, and hence the patient should await the time when the doctor thinks it best to use any form of treatment. At all times it is best to follow the guidance of a physician of known competence and character; otherwise one may come under the evil influence of advertisers and schemers who make false promises in order to gain the confidence of the patients' parents and friends. It is a good rule to accept medical advice from no one except the family physician, or those whom he recommends.

The infectious agent or the virus of infantile paralysis leaves the system with the discharges of the nose, throat, kidneys, and bowels. The patient should accordingly be isolated and the same precautions observed as in scarlet fever.

To prevent the spread of this disease is rendered specially difficult by the fact that the virus or germ of the disease often finds a lodgement in the nasal passages of the healthy persons who come in contact with the patient. Such healthy persons may harbor the germ for weeks without themselves showing any signs. Persons thus carrying a disease germ are known as disease carriers. They are themselves healthy, but can transmit the disease to other susceptible persons with whom they come in contact. Infantile paralysis occurring in persons who have not been near any one suffering from the disease can usually be ascribed to disease carriers. Another factor aiding the spread of infantile paralysis is the socalled abortive case. Some children have the disease, but do not develop the paralysis, and hence the true identity of their malady is not discovered. Naturally a diagnosis of some other malady may be made, such as "teething," or "biliousness," and no precaution is then taken to prevent the spread of the disease.

There is no known way to explain the socalled sporadic cases of infantile paralysis, that is, the scattering simple cases, except on the assumption of healthy persons who act as carriers of the disease. By this assumption, the occurrence of scattering sporadic cases is easily understood, but not easily prevented.

When an epidemic of infantile paralysis appears, children can be protected by keeping them safe at home, and by regarding with suspicion every person or thing that comes on the premises. Any members of the household who have been out on the streets, should change clothing and wash face and hands before touching the children. The milk should be pasteurized, and all foods cooked before being placed on the table.

In order to prevent contamination from the persons who have been out in public places, all door knobs, furniture, and woodwork should be gone over daily with a disinfectant solution containing seven Grams of corrosive sublimate (1 large antiseptic tablet) to the quart of water. The solution should of course be kept away from children Before sweeping, the floor should be sprinkled with moistened sawdust or moistened bits of paper, or one of the various preparations sold for the purpose of preventing dust.

If the above precautions are carried out by a household, the disease is likely to be excluded. Infantile paralysis has never in historic times affected a very high proportion of the children in any community. There is a substantial percentage of safety in favor of health. Scores of small epidemics have passed over the various communities in the past decade, but no one of them has ever lighted up a devastating scourge. It is unlikely that present conditions are favorable to an unlimited spread of the disease. The householder therefore who relies on his family physician, and obeys the simple rules mentioned above should view the future with equanimity

THE MEETING OF THE MEDICAL SOCIETY OF THE MISSOURI VALLEY

We learn from our friend Dr. Charles Wood Fassett, secretary of the association, that the Medical Society of the Missouri Valley will meet in Omaha on Thursday and Friday, September 21 and 22. The president is Dr. John P. Lord. The meeting of this association will be held at the Hotel Fontenelle. We understand that an excellent program, limited to twenty papers, will be presented. Every physician who lives anywhere near Omaha should plan to attend this meeting.

INFANTILE PARALYSIS: HINTS AS TO ITS TREATMENT

There is so much talk about infantile paralysis these days, that naturally one thinks we

ought to be getting something sensible out of it all.

Recently the Buchanan County Medical Society held a special meeting at St. Joseph, at which this disease was the theme for discussion. Indefinite quarantine and all sorts of precautions were recommended. And that is all right; for, I believe we should be careful not to let the people spread the contagion unchecked. However, I think we are going too far. This idea, that anyone carrying the contagion or who has been associating with a child suffering from infantile paralysis may harbor the germs for months or an indefinite period of time, would put us in a bad way, if generally accepted.

I think that, so long as we can not positively demonstrate that a case of infantile paralysis is traceable to the infection of one having suffered from the disease, we should not preach cocksure doctrines and frighten people, with the result that we cannot get neighbors to take charge of or help care for a child; especially when we have at command means by which we can prevent the infection of exposed persons, and also can cure most cases if taken rightly and in time.

The various students of this disease nearly all agree that it is infectious, the organisms being carried through the lymphatics. That it is due in part to taking cold, wrong feeding, indigestion, and the like, there can be little doubt. It is brought on in about the same ways as are meningitits, tonsillitis, pharyngitis, and so on.

Parents should be instructed to call the physician early—as soon as the child shows symptoms of indigestion, a cold, coryza, loss of appetite, and drowsiness, especially when these symptoms are accompanied by fever, constipation, diarrhea, and forms of indisposition.

The treatment should, first of all, consist in proper elimination. Start with three or four divided doses of calomel; then, in one or one and a half hours after the last dose of calomel, begin with some good saline laxative, also in small doses, say, every half hour, until the bowels have moved three or four times. Or, if the bowels do not move, follow this up with an enema of warm water.

A good plan may be to follow this the next day with 2 drams of castor-oil to which 5 drops of oil of turpentine and 10 or 12 drops of glycerin have been added. After this, continue to give a small dose of the saline laxative, say, three or four times a day, to keep the bowels loose, and between times the sulphocarbolates. An effervescent saline laxative may be dissolved in water well sugared, and given in teaspoonful doses. This will keep down the fever without depressing the heart. The dosimetric trinity is useful at first to sustain the heart. Tonics may be in place later on. Calcium hypophosphite compound will be of value.

First of all, forbid all cold drinks and improper foods, and do not feed anything as long as the child has no appetite.

But—speak of appetite! Most of these little sufferers are not hungry, but thirsty. They still are on the breast or on the bottle, and they cannot tell the mother whether it is thirst or hunger from which they are suffering; hence, they are put to the breast or given the bottle. This is all wrong. The first thing should be, to take the sick baby off the breast and give it no milk in any form. Instead, give all the warm water that is wanted; better, still, barley-water, rather weak, but everything warm.

There is one other point that I think is worth mentioning. The dispensing doctor has the advantage over the prescribing doctor in these cases. To illustrate: I was called to see a youngster of 30 months who had a very acute attack of gastroenteritis, and beginning paralysis. I will not call it a case of poliomyelitis this time, because the child got well.

The family doctor had been called in time, but the child grew worse so fast that the parents became alarmed, and, as their physician had to go into the country, they called me. The child was in a bad way. The doctor, before leaving, had given them prescriptions for several kinds of medicine. The instructions as to how to manage the child seemed vague to the parents. I gave the child what it needed from time to time during the next two or three hours, until I could be sure the medicine would show effect, and instructed the parents and nurse how to proceed. We had a hard fight during four or five days and nights, but we saved the child; having the medicine at hand and using it regardless of expense, besides giving proper instructions to the attendants, to which final success may be ascribed.

R. Willman.

St. Joseph, Mo.

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[May I suggest that, in connection with Doctor Willman's article, the editorial on acute anterior poliomyelitis (August issue of this journal, page 640) be read again. Also read the article in the What Others Are Doing

Department, page 766, relative to the intraspinal injections of adrenalin.—Ed.]

THE CAMPERS' "LYRE"—STRIKE IT AGAIN DUNGAN

My outing which I have enjoyed more, both in quality and quantity, than ever before, was taken 12 miles from Bozeman, Montana. Had it not been for the thoughtfulness of Eugene White, my guide, in disposing of a stumbling block, in the form of a railroad ticket, which the conductor had punched off for ten days, instead of thirty days, two-thirds of my vacation would likely have been lost. Mr. White, after casually informing me that we had that day committed burglary and made false pretenses, went on to give the cheerful details, as follows:

You see, I knowed you'd like to stay
This mornin' when you walks away,
But still you thinks you've got to go,
Because your ticket has it so.
Wall, while I'm washin' up a sock
A feller asks, am I the "doc"—
He's heard your ticket is fer sale;
An' pulls a hefty wad of kale
And says, will I take ten fer it?
An' I looks up from where I sits
And makes reply, "I am an' will."
Then, while he's searchin' out a bill,
I gits your ticket an' he goes
Bestowin' it amongst his cloes.
An' then I thinks I better clear
Fer town an' git the grub up here.
I goes with Charley, an' as he
Is aimin' to start back at three
I gits it in the wagon-bed
By two, reflectin' what he said
'Bout comin' off an' leavin' me
If I wan't right on hand at three.
Well, while I'm wastin' round the spot
That same guy comes up on the trot
An' says he's got a job since when
He buys your ticket here for ten –
His job will net him five a day.
An' now he's anxious fer to stay,
An', givin' me a pleasant laugh,
He says he'll let 'er go fer half –
I takes my watch out, thinkin', see!
Your ticket was due out at three.
I notes the time an' buys it back
An' makes a run to jump a hack,
Intendin' fer to ketch that train
An' have your ticket punched again
So you could stay a month or more,
When down the street there comes a roar –
"Doc! Doc!", I hears, an' turns round just
In time to meet a cloud of dust
From which emarges one tall Swede –
Angora locks upon his head—
An' says: "Ere you de feller w'at
I hears about yust now dat's got
A ticket dat you vants to sell?"
I almost hollers "Git to —well,
Plum out of here, I don't care w'ar!"
An' then I notes him standin' thar,
Beseechin', sort o', with his eyes.
So, I unhooks a soft reply
An' gently tells this doubtful gump
Ef he buys it he's got to hump;
An', goin' on, points out that he
Will have t' make the train by three.
"Vell, mister, says the Swede, "you see,
Mine brudder vants de ticket. He
Yust lost his yob an', so, he pay
You fifteen dollar right away
Ef you go oop to boardin' place,
He's dere a-lying' on his face
Ven I come hare, beneat' de trees
I got a buggy. Yump in, please!"
I yumped in, wonderin' ef his "brudder"
That lost his job would get "an odder"
And then come back and make a roar
To sell the ticket back some more.
An' w'ile I wondered, we arrove
Alongside of the peaceful grove.
We went in an' located "Jim."
But when I gits an eye on him
I just sits down—yes, that is all
I had to do or, by gum, I'd fall.
I know that I'm no ravin' beaut,
But ef I look like that galoot
I hope some simple, kindly man
Will come and tap me on the can
An' use a sledge—you bet that I
Would wish to bid this earth good-bye.
Wall, Jim he rubs his eyes and yawns,
An' it is some time 'fore it dawns
On him what 'twas that other Swede
Was hammerin' into his head;
An' then he furls the ticket out,
About a yard or there-about,
An' reads what's said on it 'bout you.
"One-fifty pounds, hair none—eyes blue."
Wall! then he sizes up my face,
Some scornful, too! Amazin' grace!!
"Vell, say!" he asks the other Ike,
"You tank dat ve two looks alike?"
I bends my lightnin' stare on him
Afore he makes response to Jim,
But that one never turns a hair
When he beholds my lurid glare;
Just rolls his eyes of pinkish-blue
An' says, "He ban a twin fer you"!!
Say, pard, ef I'd a-had my gun
Them two would sure ben killed off some.
The only reason, as it is,
That they're alive is—simply biz.
Good reason, too, as you'll agree,
For you'd still had that ticket, see!
Wall, so I let the thing go thru,
Tho 'twas an awful slam on you.
He pays the fifteen; then be got.
He sees that I am sizzlin' hot,
An' I sure tremble yet, my son,
To think of what I might have done.

Thus he spoke, and proudly bent his right
To give some idea of its might;
And, picking up the sleeve on it,
Blew his biceps up a bit.
With that he dropped upon my knee
The twenty he had got for me,
And I turned back a five, to aid
The ghastly wound the Swede had made
Ah! good old guide, I hope I may
Be with you there another day.
We all have faults, and you have yours,
And oft I've listened to your snores
Ring loud and clear throughout the glen,
And wished that just an old clothespin

Might be affixt astride your nose
And render noiseless your repose
No doubt I snored—if so, forgive,
And, so, permit the hope to live
That some sweet day I may retain
Your self and services again.

J. S. Dungan

Greeley, Colo.

A DIETARY OF EASILY DIGESTED FOODS

The above headline is also the title of a little pamphlet written by Dr. Matthew Woods, of Philadelphia, and printed for the use of his patients. The dietetic directions, which are to be regulated according to the individual requirements of the patient, are interspersed interestingly with little philosophisms concerning the relative importance of right eating, if one would enjoy a happy and contented life; some also deal with a few other topics.

We do not agree with the author of this pamphlet in everything he says: but in the main it is common sense—and that passes current everywhere. Just one little criticism, though: for practical use, these pamphlets are rather too expensive. Such lists should not cost more than five or ten cents to print. Fifty cents is too high a price for anything to be given away in great number by an ordinary practitioner.

PRACTICAL POINTERS FOR SEPTEMBER

Kinney (*Med. World*) has used, since 1884, cider vinegar as an antidote to phenol, with success.

In sthenic fevers with delirium and faulty toxin elimination, veratrine will equalize the circulation and open the avenues of elimination.—Servoss, *Med. World*.

Cerebral irritation may be the cause of insomnia. Remove the cause, and hyoscine will give natural, refreshing slumber, without any serious damage to the patient, if any at all.—Servoss, *Med. World*.

We have cured headaches that glasses only helped: the aches partly due to eyestrain, partly to the cervical spinal nerves.—*Med. World*.

Infantile Paralysis: The route of infection is by way of the nose and throat mucosa, possibly the intestinal canal.—John Dill Robertson.

Nearly or all typhoid-carriers have been persons who handled food. How, but by handling the food with hands not properly washed?—Smith, *Public Health*.

Vaccinated French soldiers had typhoid fever in slight form, from which they readily recovered; the attack, in most instances, probably having been paratyphoid fever.—Grenet, *Therap. Record*.

Infantile Paralysis: Neustaedter (*N. Y. M. J.*) advises frequent spraying of the nasopharynx with a 1-percent solution of hydrogen peroxide; while healthy children are to be sprayed with 0.5-percent menthol solution in liquid parraffin. Chlorazene promises to be of great value. For pain, give bromides and chloral, in the case of infants; opiates and coal-tar preparations for adults.

As the doctor observes, in the laboratory, the marvelous changes that drugs may induce in the functioning of various organs, is there not likely to develop in him an inordinate confidence in drugs?—Swingle, *N. Y. M. J.*

In grave emergencies, acute cerebral congestion, and uremic poisoning, where a quick-acting depleting agent seems demanded, no one drug appears to be so satisfactory in its temporary manifestations as is pilocarpine.—Bush, *N. Y. M. J.*

Poliomyelitis: In the *N. Y. M. J.*, Scheinkman suggests quinine as a prophylactic—gr. ½ to 1½ t. i. d., for children from 0 to 15 years old. Robinson advises ammonium salicylate with caffeine; and Welden urges calcium chloride.

Under no circumstance should sodium bicarbonate be given in massive doses day in and day out, with no other thought than to render the urine alkaline.—*Amer. Med.*

Acidosis: A thorough cleansing of the alimentary tract is advisable in the beginning of treatment.—Wainwright, *Amer. Med.*

I am aware that experimentation with animals has been used to prove that cactus is inert, but on this point clinical experience seems to have demonstrated its utility.—Satterthwaite, *Internat. Clinics*.

Beasley treated a gangrenous lung abscess by intravenous injections of calcium, with iron, strychnine, and arsenic, and 2-grain doses of calcium iodide by the stomach. Recovery ensued.—Indianapolis *Med. Jour.*

Waldo says: "Put a well man on a markedly restricted diet for several days and purge him, and for some time he will be nauseated and suffer abdominal pains. Open his abdomen, and all the symptoms will be aggravated." What a very unskillful way to clear the patient's bowels before operation. Better call in consultation a *real* doctor.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, *A. M., M. D.*

There is nothing else that human nature so dotes on as excuses to cover its own carelessness and bad management. If one can be said, for instance, to have the influenza, that seems to settle the matter; and, regardless of indiscretions in dress and health, the man thus afflicted is entitled to or seems to receive a certain amount of sympathy and consideration. Many cases of grip are traceable directly to the heedlessness or wilfulness of the victims.

"Influenza weather," so called, is nothing more nor less than bad weather. The business man thinks it not worth while to put on his overcoat when about to run across the street for a moment. So, he rushes out of a heated office into an atmosphere that demands just as much care in the way of clothing as does a genuine wintry day. If it so happens that he meets a friend at a street-corner, he may stop for a talk. Meantime the raw air is doing its malign work. When he comes back to the office, he shivers a little and says, maybe: "Whew! isn't it chilly? Raw weather, this." Then he goes about his business. But in a day or two he is laid up, and if he escapes pneumonia or pleurisy he is fortunate, indeed. Then, when later this incautious man gets out again—if he ever does—he has a great deal to say about what a bad disease influenza is, and what a trying time he has had.

This man invited the cold and the congestion; and, not being willing to give credit to the proper cause, he says he has had the grip, and that this epidemic is a dreadful thing.

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Worry is a disease. Sometimes it becomes a crime. It is something that can be overdone, an infirmity of which one must rid himself.

Modern science has brought to light nothing more curiously interesting than the fact that worry will kill. We have long known that it is a cause of much illness. The theory is a simple one. Briefly put, it amounts to this:

Worry injures beyond repair certain cells of the brain; and, the brain being the nutrition-center of the body, the other organs gradually become injured, and then, when some disease of these organs or of a combination of them arises, death finally ensues.

Thus does worry kill. Insidiously, like many another disease, it creeps upon the brain, in the form of a single, constant, never-lost idea; and, as the dropping of water over a period of years will wear a groove into a stone, so does worry gradually, imperceptibly, but none the less surely, destroy the brain-cells that lead all the rest—that are, so to speak, the commanding officers of mental power, health, and motion.

Worry is one irritant at certain points, which produces little harm if it comes at intervals or irregularly. Occasional worrying the brain can cope with, but the brain is not proof against the iteration and re-iteration of one unrelieved idea of a disquieting sort. It is as if the brain were laid bare and its surface struck with a hammer very lightly every few seconds with mechanical precision, with never a sign of letup or the failure of a stroke.

Just in this way does the annoying idea, the maddening thought that will not be done away with strike or fall upon certain nerve-cells, never ceasing, and week by week diminishing the vitality of these delicate organisms that are so minute that they can be seen only under the microscope.

Yes, worry kills. But you can cure worry, and you can do it yourself. Try it, and see how well you succeed.

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Throughout his whole history, man has been a fighter. He has fought the cold of the north and the heat of the tropics He fought, in prehistoric ages, the mastodon with its huge tusks and long hair. He has fought the savage and poisonous animals of every continent and island. And all of the time he steadily fought against his brother man.

Now, he is beginning to understand, dimly, that his real battle is but just beginning. Tigers, lions, and even vicious men are insignificant enemies as compared with the invisi-

ble agents of disease that slaughter wholesale.

The tiny comma-shaped bacillus of cholera killed, in one year, in Europe, under the name of "the black death," more than all the lions, tigers, and bears could kill in many centuries.

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The deadliest of all foes today is the bacillus of tuberculosis, which every week kills more human beings than perished in any battle of the civil war, which in one generation destroys life and energy enough to create a new nation.

Modern prevention, as against more or less unreal oldfashioned "cure," is the great task of this day.

The most valuable property in this world is the human being.

All wealth is made real by human labor. By that labor, the cotton-boll is changed into clothing; iron ore of the hills is made to supply skeletons for city buildings; bricks, stone, lime, and sand are changed into human habitations; swamps and deserts are made over into fertile fields.

Human life is the greatest of all wealth. And human life has been wasted and neglected by our socalled civilization, as the lowest savages waste the wealth from the wreck that washes ashore.

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Many congresses have been held to discuss and plan for war. Many gatherings of "great men" have devised ways and means of carrying out murder on a big scale. At such meetings for the planning of wholesale murder, the planners are honored, and the people listen eagerly for every detail, like bloodhounds waiting to be put on the scent.

Those that go to the battlefield and do the killing are rewarded with titles, pensions, blazing uniforms, and their work of murder is done with bands of music and shouts of triumph.

Scientists, protectors of human life work in silence, and their reward hitherto has been indifference and ingratitude.

The man who kills a thousand of his fellows is proclaimed a hero; one who kills half a million is called a savior of his country, and his statues cover the land.

It is time for a change—time for civilized beings to be interested in civilized work. The wholesale murderer has had his share of glory.

It is time to reward and appreciate those that save life, time to condemn those that desecrate and waste human life.

Voltaire said: "Men who are occupied in the restoration of health to other men, by the joint exertion of skill and humanity, are, above all, the great of the earth. They even partake of the divinity, since to preserve and renew is almost as noble as to create."

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The world is being taught how to live and what to do to insure the most healthful conditions and guard against the inroads of disease; and the lessons cover every field. It has been pointed out that "disease is not a natural condition" and that many of the ailments with which humanity is afflicted are traceable to the gregarious instinct that brings people into groups, leads to congestion and creates surroundings favorable to disease. Add to this carelessness, ignorance or slothfulness, as they may be found in many communities, and the problem becomes most serious.

It is the beneficent purpose of science, in this age of growing kindliness (I am not now considering Europe), to teach men and women how to guard against these evils and thus, while enjoying the associations and pleasures of existence in large communities, to avoid the perils in question.

In this way, science and the social uplift movement go hand in hand, and the good results are apparent on every side. The campaign for the prevention of tuberculosis, the pure-food legislation, the efforts to protect water supplies from pollution, the destruction of various insects (such as flies, mosquitoes), that carry disease and menace human health—all these are parts of the same general crusade, and all tend to educate the people up to a knowledge of what is necessary to ward off threatened danger.

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Health no longer is an individualistic nor solely a national matter. It has a primary social meaning. It has a relation to the integral life of each nation. It is a social asset. The conservation of human life and the lengthening of life mean so much more of social value to any community, while the ravages of preventable diseases make waste and tend to the deterioration of the race.

It has been estimated that thirteen years more can be added to the average length of human life by the application of principles already familiar. This, doubtless, is merely a guess, but no one who is at all familiar with the havoc wrought by preventable diseases will be disposed to believe that the estimate is an extravagant one.

But, prolongation of life is not the only result that may be anticipated if a general observance of well-established principles of health could be secured. The prevention of the misery and the economic waste that result from illness also must be considered.

A few years ago, a committee of New York specialists reported that the economic waste resulting from preventable diseases in that city reaches (if I remember correctly) the enormous total of $40,000,000 every year. In other words, this huge sum represents the loss entailed by the citizens of New York City, through depletion of wages, expenses of medical attendance, curtailment of efficiency, and the hundred and one other ways in which illness is expensive.

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In considering what has been done and what is being done to lessen deaths, one thing should not be forgotten. That is, sentiment does not play so great a part in preventing disease as do money and material things.

We feel sorry for the family across the way that becomes afflicted. We express our sympathy, as a people, in the approved manner. But we do not, as a people, take any steps to *prevent* such affliction, until we find that there is danger of its "striking home" and that, when it does "strike home," it will cost us something.

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Corporations certainly are selfish aggregations, for, assuredly, there can be no sentiment in a corporation. Yet, we find the corporations of the world today doing more to stamp out disease than are individuals. This is simply, because the corporations have found that disease is expensive.

The head of a great manufacturing plant may feel the keenest sympathy for a workman who has become diseased. But, the corporation will also experience a financial loss by having any of its employees become sick. So, while the head of the corporation possibly may individually send a basket of fruit or flowers to the stricken family, the corporation, as such, proceeds to reconstruct the plant in such a way that no more of its men will get sick. The corporation, therefore—unfeeling as it is—is doing more, out of cold, selfish business interests, to prevent disease than is the kindhearted director of the same corporation as an individual.

A pretty good example of this may be seen in the activities of the insurance companies at this time. Formerly they wrote policies upon men's lives, and charged a premium based upon their "expectancy," as it is called —then they forgot all about the insured until the death certificate came in for payment. These companies are now finding that it pays to look after the insured—to see to it that he lives just as long as it is possible for him to live. If the company can add a year to the life of each of its policy-holders, it prospers materially to that extent.

So, these same companies are building sanatoriums and employing experts and spending money, to prevent wrong living, and are doing everything they can to lengthen life. Selfish as it is, the world is profiting along with the insurance companies, and certainly no man who has been given a year of life will complain at paying an additional premium on his policy.

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"An ounce of prevention is worth a pound of cure." Yes. Or, as it might well be revised, "is worth a *ton* of cure." The cure of disease has made, and is making, rapid progress. Yellow-fever, tuberculosis, rabies, venereal diseases, and others have been studied, and for many of them effectual cures have been discovered; but, while great advance has been made by scientists in these directions, prevention has not received the attention it deserves.

Despite all the pronounced cures of preventable diseases, these diseases continue to carry off their victims. It is safe to estimate that more than 90 percent of the world's mortalities is caused by these diseases or their closely related conditions. So, despite ages of research and experiments, there is yet no insurance against the death of a person who is stricken. There is, however, an insurance against illness.

The cure of diseases can be left to medical experts, but their prevention can be entrusted to the public—to an *educated* public. To the physicians belongs the cure, to the public, the prevention of diseases; that is, under the guidance and training of the students of medicine and hygiene.

If one reads all the advice given in newspapers and magazines, he might think it would require all his time to keep well. Much that appears in print, though, is of no value, is mere stuff to fill space. The real thing is, to keep clean, physically as well as morally, to follow the simple rules of life, such as we require of our finely bred animals; and to devote as much attention to the breeding of human beings as we do to the breeding of thoroughbred animals and the propagation of beautiful flowers and fine vegetables.

Among the Books

"THE INTERNATIONAL MEDICAL ANNUAL"

The International Medical Annual: A Yearbook of Treatment and Practitioner's Index. 1916. Thirty-fourth year. New York: William Wood & Co. Price $4.00.

It always affords us pleasure to announce "The International Medical Annual," one of the best publications of its kind known to the Reviewer. The present number is no exception to the rule and contains a very fine review of the work done in all branches of medicine during the preceding year.

It is in the nature of things that the experiences bought very dearly by physicians, surgeons, and sanitarians in the present European war have received special recognition in this volume of the "Annual." To pick out just a few interesting points, we find various articles on the employment of emetine, one of the remedies at present commanding the particular attention of physicians. The question of drugs that may be employed in the place of the scarce salvarsan also has received considerable notice. In short, record may here be found of an enormous amount of clinical and laboratory-work that has been accomplished.

The Reviewer trusts that he will be permitted one suggestion in the matter of literary references. In accordance with the custom of *The Lancet* and *The British Medical Journal*, both of which publications issue two volumes a year,—to wit, vol. i and vol. ii—the volumes of other journals are frequently indicated in like manner. For instance, we find on page 81, reference 6, *Journal of the American Medical Association*, 1914, i, page 1816; when, as a matter of fact, the volume should be 63. Again, on page 93, references 4 and 5, *The American Journal of Obstetrics* is cited thus: 1915, vol. i; 1914, vol. ii. These references should, correctly, read, respectively, vol. 71 and vol. 70. It is plain that it would be of value for the work of bibliographers if the editors of the "Annual" defer to the particular methods followed by the various periodicals in numbering their volumes. The Reviewer does not mention this in criticism, but in the hope of further improving this most excellent work.

BING: "NERVOUS DISEASES"

A Textbook of Nervous Diseases: For Students and Practicing Physicians. In Thirty Lectures. By Robert Bing, M. D. The Only Authorized Translation. Made by Charles L. Allen, M. D. New York: The Rebman Company. 1915. Price $5.00.

Doctor Bing, the author of this textbook of nervous diseases, is favorably known for his excellent work in neurology, and also for the attractive and forceful style of his writings. His diction is clear and concise, free from unnecessary verbiage; his descriptions are lucid and graphic. The fact that this book, which is intended for the general practitioner, is written in the form of lectures enhances its value, in the Reviewer's opinion, because the rather difficult subject-matter thereby is presented in a manner more easily to be understood.

It is unfortunate that the translator attempted to reproduce the author's language as closely as possible; for, actually, the English text suffers because of the literal transcription of the German phraseology and the German construction of sentences, which often is carried to undue lengths. It is to be hoped that the entire text will be rewritten for a second edition and that this will steer clear of the main disadvantage attaching to any translation. Even with this handicap, however, the book will prove of value to the physician.

BROWN: "RECOVERY FROM TUBERCULOSIS"

Rules for Recovery from Tuberculosis: A Layman's Handbook of Treatment: By Lawrason Brown, M. D. Second edition, thoroughly revised. Philadelphia: Lea & Febiger. 1916. Price $1.25.

A very readable book, setting forth in plain and clear language what to do and what to leave undone in order to recover from tuberculosis. An excellent book to put into the hands of the consumptive and of those in

care of him. It is free from fads and fancies, eminently sensible, and bound to accomplish much good.

HERB: "BEAUTY AND MOTHERHOOD"

Beauty and Motherhood. By Ferdinand Herb, M. D. Chicago: The Medico Press. 1915.

The author claims that "to divest childbearing of its risks and to make it a normal process without sacrifice to beauty or injury to the mother, in health or life, it becomes necessary: first, that the young woman is healthy, strong, and well developed when entering married life; second, that the woman receives proper and scientific care during pregnancy, confinement, and the nursing-period until her previous condition of health, beauty, and physical soundness is again restored.

In accordance with these requirements, the author discusses in this treatise the means by which growing girls may be prepared for motherhood, and also those by which the health and beauty of the mother may be preserved.

OXFORD "WAR PRIMERS"

Among the many medical books that have been called forth by the special needs of physicians and surgeons serving with the British army, a series of small, handy volumes "in khaki" appeal to us on account of their concise handling of the subjects, all frills being left out. They are well adapted for emergencies, for rapid reference, and for refreshing one's memory. Mention may be made of the following volumes; all being published by The Oxford Press, of London.

Medical Hints. For the use of medical officers temporarily employed with the troups. By J. Edward Squire. Price $1.00.

Gunshot Injuries of Bones. By E. W. Hey Groves Price $1.25.

Abdominal Injuries. By Rutherford Morison and W. G. Richardson. Price $1.00.

Injuries of Joints. By Robert Jones. Price $1.25.

Nerve Injuries and Shock. By Wilfred Harris. Price $1.25.

Wounds in War: Their Treatment and Results. By D'Arcy Power. Price $1.00.

Surgery of the Head. By L. Bathe Rawling. Price $1.25.

Wounds of the Thorax in War. By J. Keogh Murphy. Price $1.00.

Injuries of the Eyes, Nose, Throat, and Ears. By A. M. Ramsay, J. D. Grant, H. L. Whale, and Ch. E. West. Price $1.00.

The Stretcher-Bearer. A companion to the the "R. A. M. C. Training-Book," illustrating the stretcher-bearer drill and the handling and carrying of wounded. By G. M. Dupuy. Price $1.00.

Cerebrospinal Fever. By Thomas J. Horder. Price $1.25.

HOLLOPETER: "HAY-FEVER"

Hay-Fever: Its Prevention and Cure. By Wm. C. Hollopeter, M. D. New York: The Funk and Wagnalls Company. Price $1.25, net.

Hay-fever shares the fate of many other diseases the exact nature of which is not fully understood, in that an enormous literature is devoted to it. Perhaps more than any other disease has this condition been the subject of discussion by medical and nonprofessional writers alike, and remains an ever interesting topic of study. The reason for this undoubtedly lies in the fact that hay-fever is far more prevalent than has been realized, and that, moreover, it is more difficult to deal with than almost any other human ailment.

While not directly a menace to life, hay-fever nevertheless constitutes a serious affection, in that from year to year with merciless regularity it diminishes the working-capacity of its victims, and seems to be all but intractable despite the great variety of remedial measures that have been proposed for relieving and curing it.

Like nearly all other writers on the subject of hay-fever, the author—Doctor Hollopeter—of the present volume is himself a "sufferer," and, so, writes feelingly and from personal knowledge. He has gathered together all the most important facts from the existing voluminous literature upon this subject and presents clear descriptions of all therapeutic measures that have been found of any value at all. He himself has succeeded in relieving many attacks and even in preventing their occurrence by a mode of treatment designed to strengthen the nasal mucous membranes and to keep the nares scrupulously clean.

The moot question of the causes of hay-fever is discussed at great length, as is also that of contributing factors that possibly may create a predisposition. Also, many forms of treatment are described. In short, the book will be found of considerable interest, to physicians as well as lay victims. An exhaustive

bibliography, historically arranged, is appended.

"REFERENCE HANDBOOK OF THE MEDICAL SCIENCES"

A Reference Handbook of the Medical Sciences. Compiled by various writers. Third edition, completely revised and rewritten. Edited by Thomas Lathrop Stedman, A. M., M. D. Complete in 8 volumes. New York: William Wood & Co. 1916. Price, cloth, $7.00.

The 6th volume of this magnificent work of reference includes the articles from Ligation of Arteries to Ozœna and contains many important separate treatises that are very full and complete. Among others, mention may be made, for instance, of the articles on diseases of the lungs, pulmonary tuberculosis forming a separate treatise; to the discussion of the lymphatics, of malaria, naval hygiene, the various forms of meningitis, occupational diseases, besides a great variety of others. The subject of medical licensing boards is dealt with at considerable length and includes the regulations in force in countries other than the United States. Of particular interest to the Reviewer, are the instructive articles on the history of medicine and of its various disciplines, as, for instance, obstetrics; so, also, the biographies of various medical men of note. Incidentally, we observe that in the article on Pierre Charles Alexandre Louis there is no reference to that author's "Recherches sur la Phthisie"—a work first published in 1825, and in a second edition in 1843—which was not without influence upon the study of tuberculosis, since it supported the views of Laennec against the attacks of Broussais and others.

This reference handbook not alone is of great interest to the student, but it presents to the practicing physician the related subjects in condensed form, and, yet, sufficiently detailed to be of very decided service in his daily work. The undertaking of the publishers deserves the cordial support of the medical profession.

FISHER AND FISK: "HOW TO LIVE"

How to Live. Rules for Healthful Living Based on Modern Science. Authorized by and prepared in collaboration with the Hygiene Reference Board of the Life Extension Institute, Inc. By Irving Fisher and Eugene Lyman Fisk, M. D. New York: The Funk and Wagnalls Company. 1915. Price $1.00, net.

"The purpose of this book is, to spread knowledge of individual hygiene, and thus to promote the aims of the Life Extension Institute. These may be summarized briefly as: (1) to provide the individual and the physician with the latest and best conclusions on individual hygiene; (2) to ascertain the exact and special needs of the individual through periodic health examinations; (3) to induce all persons who are found to be in need of medical attention to visit their physicians."

The Reviewer feels that nothing that he could say would express the purpose of the volume before him as well as the foregoing paragraph quoted from the preface. The book is written in substantiation of the feeling, which constantly is gaining ground, that the highest duty of the physician is, to prevent disease and to teach the people how to live so as to attain this aim. We have found the teachings and discussions of great interest and are in hearty accord with virtually everything there said.

The book is one of those that physicians should put into the hands of their clients, especially the mothers of families, and which they should use as textbooks in teaching those whose education has not been sufficient to enable them to follow discussions that naturally must be more or less technical. "How to Live" is, in our opinion, one of the best treatises on this vital subject.

BOWERS: "ALCOHOL"

Alcohol: Its Influence on Mind and Body. By Edwin F. Bowers, M. D. New York: Edward J. Clode. 1916. Price $1.25, net.

Clinical Medicine has, from its very birth, considered it as a very great advantage of the active principles over galenicals that they can be used without the simultaneous presence of alcohol, rendering, as they do, the alcoholic extracts, tinctures, and other spirituous preparations superfluous. The therapeutic use of alcohol has been discouraged persistently in these pages as unnecessary, even though it was admitted that under certain exceptional circumstances a dose of alcohol might aid one in tiding a patient over a dangerous period. Even now we are not prepared to recede from this latter position, one which is shared by some of our most experienced clinicians. Nevertheless we continue to insist that the routine or the indiscriminate prescribing of alcohol is to be dep-

recated, exactly like that of any other poison.

Doctor Bowers' book on alcohol has been prepared with a high degree of industry and with an unfailing enthusiasm that must lend power to his reasoning. He presents his subject forcefully and, with few exceptions, logically, arriving at the unavoidable conclusion that the therapeutic use of this dangerous drug should be eschewed. Yet, as even the devil is said to have some good traits, so alcohol is of undoubted value—when used externally; so much Doctor Bowers is willing to concede to it.

As for its food value, upon which its supporters have built their strongest arguments, Doctor Bowers finds that "alcohol is a poison which can be considered a food, provided one carefully avoids using it." This Irishism is a specimen of many quaint and epigrammatic sayings that enliven the lecture of the interesting treatise. The book is worth while, and it should be read, marked, and taken to heart.

HOGAN: "DIET FOR CHILDREN"

Diet for Children. A complete system of nursery diet with numerous recipes; also many menus for young and older schoolchildren. A home- and school-guide for mothers, teachers, nurses, and physicians. By Louise E. Hogan. Indianapolis: The Bobbs-Merrill Company. 1916. Price 75 cents.

This is an excellent little book, which does far better than it promises on its title page. Physicians should study it, and they may very properly give it to the mothers of their child patients.

DAVIS: "PAINLESS CHILDBIRTH"

Painless Childbirth, Eutocia, and Nitrous-Oxide and Oxygen Analgesia. By Carl Henry Davis, A. B., M. D. Chicago: Forbes & Co. 1916. Price $1.00.

The author of this little volume forcibly and firmly stands for the right of women to give birth to their children without having to dread the pain and the anguish that, foolishly and wrongly, have been asserted, throughout the ages, to be the inevitable curse of woman. He maintains that the pains of labor may be alleviated and, in fact, eliminated, without danger to mother and child, and that this result is her due.

Discussing the various means at our disposal for securing this result, Doctor Davis concludes that nitrous-oxide analgesia is attended by the smallest degree of danger and that it gives the best results. He does not consider the "daemmerschlaf" of equal value, because of possible idiosyncrasies both to scopolamine and to morphine.

The author presents a very serious arraignment of the medical profession in the figures by which he shows the excessively high mortality from puerperal sepsis, which by him is attributed to faulty use of instruments and to other meddlesome midwifery, besides careless habits in the matter of asepsis. While in well-regulated hospitals the mortality from puerperal sepsis has been reduced to almost nil, it has been shown that this preventable disease is responsible not only for many deaths of women attended by practitioners in their homes, but also for all too many cases of invalidism and actual diseases consequent upon confinement.

It is said that figures do not lie. We should be sorry to believe that matters are as bad as here asserted, although it must be admitted that they are, in fact, very bad. Undoubtedly much more is to be learned in the matter of clean (meaning *clean*) midwifery, and far more should be practiced.

McJUNKIN: "LABORATORY METHODS"

Hospital Laboratory Methods for Students, Technicians, and Clinicians. By Frank McJunkin. Philadelphia: P. Blakiston's Son & Co. Price $1.25.

Although this volume is intended for the hospital laboratory worker and for the technician of other small laboratories, it contains much information of which the general practitioner may avail himself for the simpler clinical tests which are needed in daily practice, and the results of which should be known promptly in order to save valuable time.

WHITING: "BANDAGING"

Bandaging. By A. D. Whiting, M. D. Illustrated. Philadelphia: The W. B. Saunders Company. 1915. Price $1.25.

The author asserts that the art of bandaging has deteriorated because of the too prevalent use of the gauze roller, and he advocates the use, at least for practice, of muslin. Since the purpose of the roller bandage is, to hold in place splints, dressings, etc., that bandage is the most useful one which accomplishes this purpose in the best manner. Still, it is true that bandages should be applied properly, and proper bandaging is an art which must be learned and practiced.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

Query 6232.—"Hysteria." J. H., Kansas, writes: "I have at present a patient who is not improving as I could wish. As all of the alkaloidal preparations I have used have proven very satisfactory, I feel that, if properly employed, they will do the work here, too. The patient is a girl 17 years of age and of socalled nervobilious temperament. She attended 'holiness meetings' in December, 1915, and became much excited. In January, she came to have spasmodic nervous movements of the right foot and leg, which soon extended to the entire right side and then to the left side, until now this trouble seems to be equally distributed over the body.

"Her menses were delayed, but now appear every three weeks and last from six to eight days, accompanied by more or less pain during the first few days. There is some tenderness in the region of the ovaries; also, some anemia; the skin is pale, hands are cool, nails pale, mucous membranes red; the pupils are extremely enlarged, resembling those of cats' eyes, but her mother says they have always been large. There is no muscular weakness, but she has lost in weight and her flesh is flabby.

"The woman has been under treatment since May 20. Her nervousness has improved by about 50 percent, but she does not seem to be making any further progress. Since the above date, she has received macrotys and scutellaria, a dose every three hours, supplemented, since July 1, by iron and hydrastis, taken four times a day. Her thyroid gland is slightly enlarged, and for this she has received iris and phytolacca. The appetite is good and the bowels are regular. The family-history is good. There are three other children, all healthy."

Your confidence in the virtues of the active principles is as gratifying as it is well founded; but, even so, in view of your experience with them, it will not be necessary for us to point out that the definite results which follow the administration of active principles are predicated, in a very large measure, and primarily, to a definite understanding of the pathologic conditions present in the patient and underlying the obvious clinical conditions.

In the case under consideration, the clinical picture presented unfortunately is a vague one. True, certain pronounced features obtrude themselves—amenorrhea, a moderate degree of anemia, cool hands, pale nails, dilated pupils. On the other hand, the mucous membranes are of normal color, so that there is no pronounced hemic disorder. The history, on the whole, leads us to think seriously of an underlying hysteria. Taking all the circumstances into consideration, we are inclined to direct special attention to the pelvic viscera. Investigate the young woman's habits carefully, and, if the clitoris is hooded, perform circumcision. At the same time, dilate the anal sphincter.

Also, on general principles, we should try spinal faradization. The internal administration of nuclein and neuro-lecithin, three times daily, together with zinc phosphide, 1-64 grain after each meal, for one week; then substituting the trivalerates and sumbul for an equal period of time, may be expected to do good. Continue these alternate courses for six or eight weeks. Thorough elimination —renal, dermal, intestinal—must, of course, be maintained. Positive suggestion also ought to be practiced. If the patient is told very positively that the minor operation recommended will prove curative, it probably will.

It would be a good idea, of course, to ascertain definitely the condition of the body-chemistry. We suggest, therefore, that you submit 4 ounces of urine from a 24-hour output, for examination at the laboratory.

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Query 6233.—"Diabetes Insipidus." G. S. M., Pennsylvania, sends a specimen of urine for microscopical examination and states that

the amount excreted daily is largely in excess of the normal, sometimes reaching as much as 100 ounces. The appetite is good and digestion very fair, but there is a steady loss of body-weight. A great deal of pain of a neuralgic or rheumatic character is alleged. One day the head and neck is involved, another time it may be the back or back and legs or arms and shoulders or abdomen. The pain shifts from place to place and frequently is quite severe. This patient is a miller, but recently sold his mill, because of asthma troubling him while following that occupation; recently he has not followed any particular occupation. Our correspondent adds, "I do not suspect any grave kidney lesion, but am trying to make a satisfactory diagnosis and to outline a definite treatment, for, so far I have not succeeded in relieving him at all, and he is worth relieving. Any suggestions you might make will be welcome."

Your report, in conjunction with the uranalysis, is strongly suggestive of diabetes insipidus, to judge from the large amount of almost clear, very faintly yellowish urine voided, which has an extremely low specific gravity and is devoid of sugar.

You will perceive that the uranalysis is largely negative, but also that the elimination of urea is very deficient; however, it contains traces of indican and skatol.

It is essential, of course, to confirm our tentative diagnosis by determining, if possible, a cause; and this may be found in some disease of the nervous system, in trauma, and, sometimes, syphilis. If there is a history of the latter, it might be well to send a specimen of blood for a Wassermann test.

In the meantime, see to it that your patient has free bowel movements, also that he takes the proper amount of suitable food. By all means, put him on a course of the Bulgarian lactic-acid bacillus. In addition, we would emphasize particularly the value of such drugs as ergotoid, strychnine, neuro-lecithin, and the triple arsenates.

The skin should receive proper care, daily tepid baths being prescribed. Also it may aid your patient to rest, lying down for an hour in the middle of the day; but he should be much outdoors, even sleep outside.

We suggest that you report the progress of your patient after two or three weeks' further treatment.

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Query 6234.—"Polyuria of Obscure Origin." A. M., Indiana, has under treatment a woman, aged 51, weight 160 pounds, with a history of "kidney trouble" of from fifteen to eighteen years' duration. Has lost no weight recently. "She gets up four or five times during the night and passes in the neighborhood of 145 ounces of urine every twenty-four hours. She complains of pain in her right side, around the liver; feels sore all over, especially in the regions of the spine and stomach. Her skin looks dark and mottled; she has a bloated appearance. Abdomen is large, and much gas in the stomach and bowels. The stools look greenish (not yellow). She feels weak." The sample of urine submitted is from 12 pints passed during a twenty-four-hour period.

Among the causes which may be responsible for such an enormous excretion of urine, we must consider more particularly diabetes insipidus and amyloid degeneration of the kidneys, besides some terminal stages of nephritis.

If it were not for the presence of hyaline casts, we should be inclined to consider this case as one of diabetes insipidus. Against the diagnosis of amyloid degeneration, speaks the fact that in that condition albumin rarely is absent, as it is here. It probably will require two or three tests to establish the urinary diagnosis. Also, it would aid us if you were to tell us the condition of the pulse and circulatory system in general, including the blood pressure, systolic and diastolic. High blood pressure, associated with a tendency to hardening of the arteries, is, of course, suggestive of Bright's disease.

In the meantime, the functioning power of the kidneys evidently is greatly below par—the urea and total solids being decidedly deficient.

If such symptoms as vertigo, headache, and the like should develop, it would be well to sweat the patient freely, in order to relieve the kidneys of some of their work. Also, it would, undoubtedly, be wise to put some of the work of the kidneys upon the bowels, by prescribing calomel, gr. 1-6, and adding podophyllin, gr. 1-64, with every second dose, until ten doses of the former and five doses of the latter have been given; then a full dose of a saline laxative. Apocynoid may prove useful.

After the bowels have been emptied thoroughly, the condition of the liver will require attention, since evidently there is retention of bile. Your suspicion of gallstones may be justified. Bilein, in doses which you must determine by actual trial, will aid in this respect.

Withhold meat from the diet for the present and order buttermilk and galactenzyme in

sufficient amounts to encourage the "friendly" bacteria in the intestinal tract.

It seems to us that this case offers considerable possibilities for trouble and that you may have difficulty in tiding the patient over the present danger.

QUERY 6235.—"Activation of Latent Tuberculosis." W. B., Texas, reports the case of a man who, in December, 1915, contracted grip. "He had fever for three or four days, then got better, but had a hard cough for six weeks. The cough disappeared, but his usual strength and appetite have not been regained. The bowels do not move well without the aid of laxatives. The patient says that a little exertion tires him out, but he has no pains anywhere. He hawks up gray-looking mucus about twenty times a day, but is not bothered at all at night. The morning temperature is 96° or 96.5° F. The morning pulse is 55, the evening pulse, 65. No loss of weight has occurred. He does not sweat; sleeps well. Family history is good. A short course of mixed-infection bacterins has been taken, but without benefit. Autotoxemia was thought of, but laxatives have not helped any."

While your letter gives a very good clinical history, it, still, leaves out a number of data that would aid in forming a definite opinion. In a case such as you describe, one would think, first of all, of an activation of a latent tuberculous process. Or, one might conclude that the patient experienced a superinfection with the tubercle-bacillus, and that this may have become effective, because the person's usual resistance was lowered by the attack of influenza last December.

This assumption is, however, hardly supported by the temperature and pulse. A morning temperature of 96 degrees, in tuberculosis, suggests a later stage. An evening temperature of 97 to 98 degrees hardly is seen in active tuberculous disease, while the pulse in this affection is far more likely to be rapid, even in case of tuberculous intoxication, rather than to be slow, as it is here. Altogether, the behavior of temperature and pulse does not suggest a bacterial source of the present indisposition. Nevertheless, it will be well to submit a specimen of sputum, for examination.

Autotoxemia is not always of intestinal origin, as you will remember, but may be bacterial or may be due to insufficient metabolism in some internal organs, and in such a case a course of cathartics may fail to afford the necessary relief.

It seems to us that this man needs a good rest, going fishing or hunting or following his natural inclinations in some other way. At the same time, we wish you would make a very thorough physical examination and report results. Also, by all means, let us have a specimen of the urine—4 ounces of the 24-hour output, stating the total quantity voided.

Meanwhile we only can offer suggestions in a general way. The arsenates with nuclein will always be of benefit, and neuro-lecithin will help. A generous supporting diet, containing also much fruit and coarse vegetables, so as to stimulate bowel movement, would be of value.

QUERY 6236.—"Persistent Nausea." B., North Carolina, sends a specimen of sputum of a man, aged seventy-four, weight 15 pounds below normal condition, maximum temperature 99.6° F., who has constant nausea; has had bronchitis for years, also has mitral insufficiency; and asks for diagnostic and therapeutic suggestions. The nausea is the most distressing symptom.

As you undoubtedly are aware, the prognosis of tuberculosis depends largely upon the condition and efficiency of the digestive apparatus, and for this reason the nausea, which is a predominant symptom in this case, will require your first attention. It is probable that, owing to this unfortunate symptom, your patient's appetite is interfered with; but, despite the fact that he is 15 pounds under weight, we would suggest a preliminary fast, in order to rest his stomach.

It is possible that the nausea is due to his swallowing sputum, which should be expectorated, or to a diminished acidity of the gastric juice. In the first case, the habit of swallowing sputum must, of course, be broken; in the second event, small doses of dilute hydrochloric or sulphuric acid, or, better, betain-pepsin, will help materially in remedying the trouble.

It would be well to flush the stomach with free draughts of water—the more so as the drinking-water of your locality is equal to the best in the world—as the present writer knows from personal experience.

In order to stimulate the function of the stomach, we would advise the administration of quassoid, 1-32 grain before meals, and this may be combined with monobromated camphor as long as the nausea continues. If further aid to digestion is required, papain will serve you well.

Considering the patient's advanced age, you probably will have to deal with a certain sluggishness of the bowels, and he may require a few doses of bilein, possibly combined with podophyllin and followed by a saline laxative. The action of any laxative drugs must, however, be kept within bounds.

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QUERY 6237.—"Spasm of Cardia or Diverticulum?" C. W. W., Nebraska, forwards a specimen of stomach contents (test breakfast of one slice of bread and one glass of water), together with the following history: "Male; age, 43; height, 6 feet; weight, 155 pounds; color, fairly good; slight anemia. Father and mother dead; father died at age of 65, cause unknown. Mother accidentally killed at age of 55. Five brothers and five sisters, all healthy, except one brother, who has kidney disease of cardiovascular origin. "The patient resided in Oklahoma until one year ago, when he moved to Nebraska. He was a conductor by occupation and drank moderately. He was entirely well up until 1913, when he began to have difficulty in swallowing his food, and soon noticed that he had to take large quantities of water in order to wash the food down. The drink at times would regurgitate through his nose and mouth. He cannot eat a meal without washing it down with large quantities of water.

"He does not complain of pain in the stomach, there is no tenderness on palpation, he coughs a great deal, but no evidence of a tuberculous condition can be found. The cough seems to be caused by a chronic pharyngitis. He has had chills and fever, which quickly respond to quinine, and this seems to be a result of a malarial infection.

"The patient feels quite good, aside from a weakness caused by insufficient nourishment. Up until three years ago, his weight was 180 pounds. He has not lost appreciably in the last year. His pillow each morning is covered with mucus and small particles of food, which have been regurgitated during the night. At times he complains of a feeling as if a lump were starting at the cardiac end of the stomach and passing toward the pharynx. The stomach tube passes readily into the stomach.

"I am inclined to think that this is a condition of esophageal dilatation, sacculation or of cardiospasm. What is your opinion?"

The report of our pathologist shows that there is present marked hypochlorhydria. Staphylococci and streptococci are present in considerable number. Under the circumstances, we should strongly suspect an extensive erosion of the gastric mucosa in the region of the cardia. This would account for the symptoms you describe. Of course, there may be some esophageal dilatation, but it should not be difficult to settle this question definitely.

Medication is not likely to prove particularly effective. Gastric lavage and the use of the galvanic current, with careful dieting or even, perhaps, a period of rectal feeding, may produce excellent results.

You might, however, try the following: Betain hydrochloride, grs. 2; pepsin, gr. 1; papain, gr. 1-2; these, dissolved in 4 ounces of water, taken with meals. Also: Resorcin, gr. 1-40; stovaine, gr. 1-50; atropine sulphate, gr. 1-2500; delphinine (crystal), gr. 1-1000; taken one hour after meals. We should not permit too large quantities of fluids to be drank. It would be well to have this man s blood and urine examined.

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QUERY 6238.—"Urinary Acidity in Diabetes." J. K., Pennsylvania, asks whether there is any relationship between diabetes and high or low urinary acidity, as ascertained by the decinormal test solution? "I often find," he writes, "that the acidity sometimes is high and sometimes low. What does that indicate in diabetic urine? Also, is there a simpler way of testing for acetone than with the sodium-nitroprusside salt? Kindly advise me of the best work on uranalysis."

There subsists a definite relationship between diabetes and high acidity of the urine, in so far as the greater the acidity the more unfavorable the prognosis in diabetes. In case of low acidity, unless there is an accompanying high ammonia output, the prognosis is much more favorable.

There is no simpler accurate way of testing for acetone than with sodium-nitroprusside.

The best work on uranalysis is Ogden's "Examination of Urine," published by The W. B. Saunders Company, and the price is $3.00. Doctor Ogden is a recognized authority on this subject and his book not only is readable, but thoroughly scientific and accurate.

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QUERY 6239.—"Talipes Equinovarus." J. A. C., Missouri, asks advice in the following case: "Girl, 8 years of age, never much sick, save with measles and light attacks of indigestion at intervals. Walked at twelve months of age, but had an attack of indigestion or was 'sick' for a few weeks, and then did not again walk until she was 14 months of

age. Shortly thereafter it was noticed that the child had a 'weak ankle' on right side, and this did not improve, but grew a little more pronounced very slowly as the years went by.

"Some six or eight months ago, it was noticed that the weak ankle was worse, that the child was beginning to walk with the foot somewhat abducted and that there was a slight limp or wabble in its gait. Soon it was discovered that the child would stand with its weight mostly on its left leg, and that the right heel did not come in contact with the ground in walking. This was causing a calloused condition of the ball of the great toe on the right side, and a degree of club foot, also some shortening of the great toe on the affected side.

A few weeks ago, the tendo Achillis on the affected side was found to be very pronouncedly contracted, so much so that the right foot could not be flexed to anything like the normal degree. This seemed to keep the heel drawn upward, so that it was not placed down in the normal way in walking. Also, it was found that the right limb, both below and above the knee, was 1-2 inch less in circumference than the left. The patellar reflexes were about normal in both legs. Child never has complained, or admitted, that there is any pain in connection with this condition; but, it evidences a very tired state of the right foot and ankle in the evening, seemingly from the strain put on the ankle by the walking in the manner described. There is an appearance of shortening of the right limb, but this is found deceptive and owing to the tilting of the pelvis—which appears to be necessary in order to accommodate the shortened or contracted state of the tendo Achillis, as mentioned. The child's general health and vitality seem normal.

"Submitting this child to a child-specialist in St. Louis, in the present month, the examination excluded tuberculosis by test, and a diagnosis of paralysis and deformity, due to a past attack of infantile paralysis, was made. Thereupon the patient was referred to an orthopedist. The latter arrived at the same diagnosis and advised, as the only important measure, the division of the tendo Achillis.

"Question: (1) Can you concur in this diagnosis, from what is herein set out? (2) Would the treatment, in your judgment, be best, the diagnosis being right or wrong? (3) If the tendon is divided and cared for properly, will it reunite, do so in a reasonable time, be strong again, and give satisfactory results? (4) Is there any danger that the tendon may not unite?"

We have carefully considered the data presented and assume that you have to do with a typical talipes equinovarus; that is, an inversion of the sole, elevation of the heel, and a torsion and adduction of the anterior part of the foot.

Of course, this deformity is frequently a result of infantile paralysis. Authorities state that spontaneous cure or improvement never occur. The tendency to relapse is strong throughout childhood, and almost certain after correction by tenotomy, manipulation or incision, unless the foot is retained for years in an overcorrected position. The earlier treatment is begun, the better.

In a child of 8 years, overcorrection is essential, and this necessitates division of the soft parts, usually the tendo Achillis, the plantar fascia, and the soft tissues of the inner and lower side of the foot. Procedure is outlined in any modern work on orthopedic surgery. We refer you especially to Keen's "Surgery," volume ii.

Forcible correction is recommended by some orthopedists. The present writer objects to this method, however, as tuberculosis, osteomyelitis, neuritis, even death from fat embolism have occurred. Extensive sloughs from pressure frequently result.

Where the deformity is known to be the result of anterior poliomyelitis, mild measures may be tried at first; for example, the patient should be etherized and the position of the foot rectified by manual force. Then a supporting brace is to be worn. In the mildest cases, the use of such a brace alone, with massage of the affected muscles, may prove sufficient. However, in a child of the age given, division of the tendons and contracted muscles seems to be indicated. Such procedure is practically free from danger and, done by a competent operator, should give results.

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Query 6240.—"Gleet." G. A. D., West Virginia, has a patient, who some five or six years ago contracted gonorrhea. He was considered "cured" but, after he took several drinks of whisky, the discharge returned. His gleet dries up and he seems well, but just so sure as he takes a drink of whisky or beer it returns. Our correspondent wants to put him on calcium sulphide to saturation, then continue this, in small doses, for three or four months. Also, he thinks of using urethral bougies containing 2 percent of protargol.

Impress upon your patient, doctor—first, last, and all the time—that you will, never in the world, be able to relieve him of his

trouble unless he *absolutely* cuts out all whisky, gin, beer, or other alcoholic. Even coffee and tea should be interdicted during acute exacerbations.

After your patient thoroughly understands this essential point (and were we in your place we should *refuse to treat him* unless he promises to be good), you may proceed along the lines suggested. Your treatment is good, but probably will not be quite enough. You must remember that in these obstinate cases, which get well and relapse upon the slightest provocation, gonococci frequently are localized in the posterior urethra and beneath the mucous membrane, so that they are not always reached by injections. This is one reason why bacterins, more particularly autogenous bacterins, have been found effective in recalcitrant cases.

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QUERY 6242.—"F. H. R., male, 41, teacher. Fairly well developed, well nourished, height six feet, weight, 180 pounds. Father, 78, died of pneumonia; mother, 64, died of tuberculosis; one brother, two sisters, health good. Has had measles, whooping cough, but not scarlet fever. Had periodical headache since childhood but this has improved with glasses. Denies syphilis and gonorrhea. When sixteen years of age suffered from 'internal strain' caused by jumping with weights, from which he fainted; described as a tearing pain in region of bladder. Fainted six or eight times in next ten years. Has not fainted for nine years.

Present trouble started in summer of 1897, while attending college. Noticed that he was passing urine more frequently than usual, no pain, no increase in amount. Riding horseback seemed to aggravate the condition. Took treatment for next two years, without apparent relief. Was never told that urine was abnormal. In 1903, patient was confined to hospital for typhoid fever, from which he made an excellent recovery. During the time and for a short time after leaving hospital, this urinary condition was much improved. His physician attributed this improvement to the regulation of his diet, habits and elimination, rather than to any special treatment for this particular trouble.

Previous to this time, patient had worried a great deal about his condition, not so much from any discomfort but because there seemed to be no permanent relief, on account of the inconvenience and annoyance, experienced. Now he became more resigned to his trouble and entered more actively into his work. His condition remained about the same as before, his weight at that time ranging from 150 to 160 pounds. Urinated about 15, 20, to 25 times daily; rarely at night, unless awakened from other causes. About four years ago he began to drink one to two quarts of milk daily and gained 20 to 25 pounds, which he still retains, although he does not drink much milk now. While drinking milk, he noticed that he passed urine more frequently and in slightly larger quantities.

Came under my care about eight years ago. Urine always normal chemically, lungs negative, nothing abnormal except this urinary frequency. Have tried formin, arbutin, tritica, soda benzoate, irrigations of boric acid and silver nitrate, with apparently no benefit. Tr. hyoscyamus in 30-minim doses three or four times daily gives temporary relief. For the last three months he thinks he is urinating more frequently through the day and often one to three times during the night. There is apt to be delay in urine starting and it stops at intervals before he is through. Passes three to five pints in twenty-four hours, one to eight ounces at a time. Has no trouble to retain urine, but there is a slight pain in back, and nausea, if urine is held long after the desire to void.

The appetite is good, thirst not excessive, but drinks water frequently from habit. Have not used cystoscopy, but sound reveals no stricture. Is of nervous temperament but has excellent control over himself."

We have come to the conclusion that you have a mild form of coli cystitis to deal with in a highly nervous patient. Bladder irritability is set up, in some individuals, with extraordinary facility, but from the history we should imagine a gross lesion of some kind occured years ago and it is more than likely that more or less infection has existed since that time. It would be a good idea to examine the prostrate carefully and, if any congestion exists, institute the line of treatment briefly outlined pamplet which we have mailed to you.

Under any circumstances, we would employ coli-bacterins. Place the patient upon a highly nutritious and easily assimilated diet and administer a pill containing strychnine, quassia, papain and juglandin, one before each meal; bilein and pancreatin an hour after eating. Limit the ingestion of fluids to a pint and a half *per diem* and instruct your patient not to take anything to drink for three hours before retiring.

It would be a good idea also to have him bathe the perineum and lower abdomen with cold water, morning and night.

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Dependable Therapeutic Fact for Daily Use

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Death—The Inevitable

IN the days of our youth, now, alas! long since passed away—we were powerfully impressed with the legend of "stout old Baron Rudiger"; who, after a lifetime spent in exchanging doughty blows on the battlefield, found himself at last facing the grim champion Death. But the dauntless old heathen never blanched and hurled his defiance in the face of his enemy:

"But I defy him. Let him come!"
Down rang the massy cup;
And from its sheath the ready blade
Came flashing halfway up.

Nevertheless, Baron Rudiger died.

In times more recent, Mrs. Eddy formulated a faith which, she assured her followers, would defy death and confer on them earthly immortality, provided their faith proved sufficient. She taught that people need not die if only they willed to the contrary. The germs of truth in the application of the rest of her system proved so alluring that today, all over the land, stately temples have risen, that testify to the wide acceptance of her principles.

Nevertheless, the lady is dead.

Elie Metchnikoff, that great man, too big for the wide bounds of Russia to confine or for Judaism to circumscribe, proclaimed his disbelief in the inevitableness of death. By taking thought, he asserted, the end might be long postponed.

Nevertheless, Metchnikoff has gone to his fathers.

Death is not debatable. To youth, it is a something the occurrence of which is relegated to the very far-distant future—somewhat as one thinks of the millennium or the end of the world. Between it and the now, stretches an illimitable extent of life—life filled with achievements, filled with pleasures; days of successful battle and hours of recompense. The thought of the ending of all this is scarcely a cloud on the horizon.

Nevertheless, Death comes, and every one of us at the last will wage with him a losing battle.

Youth—bounding, ebullient youth, glorious in capabilities as yet unlimited, crowded with the expanding germs of developing life, resistless as the mounting sap that rends the solid rock, meeting all things with the fresh, keen relish of life's springtime—shouts with exultation at its own prowess and the anticipation of things to come.

The period of growth ends, the burdens begin to be felt in the years of midlife; and, as decay progresses, they chafe and bear down upon the relaxing frame. Kindly nature provides solace for disappointments, weakens

our hold upon the terrestrial and shifts our affections to the great beyond. Memory brings to mind the friends of yore, the kindly grave father, the brown-eyed loving solicitous mother, the others who have most nearly touched our inner selves. Worries come, cares multiply, energy vanishes, and at the last we may appreciate these beautiful lines which the Countess of Blessington has translated from the country Frisian:

What art thou, Life?
A weary strife
Of pain, care and sorrow
Long hours of grief,
And joys how brief,
That vanish on the morrow.
[*Hwat bist du, Libjen,*
Ien wirch stribjen
Fen pine, noed, in soarch.
Lange ieren fen smerte,
In nochten ho koart
Det ford wien den moarns.]

Death, what art thou,
To whom all bow,
The sceptered king and slave?
The last, best friend,
Our cares to end.
Thy empire is the grave.

[*Dood, hwat bist du,*
Ta kwaem all buwjge,
Da sceptterd koning und da slawe?
Da laetste, baetste freond
* * * * * *
Dyn gebiet ist in ta graef.]

Who wants to die! ! ! Not I! Not any sane man, unless under very exceptional conditions of agony or distress. Every one of us wants to put off the ringing-down of the curtain to the last ultimately possible moment. Even the Pope—and whatever may be our faith, we feel a personal respect for the kindly old men who occupy the chair of St. Peter—who of all living beings should have the greatest sureness of his mortgage on a mansion in eternity, is in no special hurry to foreclose. There is a tradition that, if the Pope on taking his seat does not change his name, he will die within the year; and it is a fact that the last four who as Popes retained their former names actually did die before the year ended. Just so—it has been over 400 years since any Pope disregarded the superstition and retained his real name.

The welcome given to Metchnikoff's book on "The Prolongation of Life" was world-wide. We do not now spend the best years of our lives searching for the fountain of youth, as did Ponce de Leon, nor for the elixir of life, like the alchemists. We take this matter into the laboratory and seek for the causes of decay and the means of postponing it. We study the human machine and look for evidences of weak parts, which then we try to patch up and keep going. We ask ourselves: "When is this man likely to die, barring accident, and why? How may we best prolong the period of his usefulness and pleasurable existence?"

The prolongation of life is the most important, the most profoundly interesting, the most needed, and yet, the most neglected of the specialties—and it would be the most lucrative, were it followed as assiduously as are the others. "All that a man hath will he give for his life"—and the old man usually has quite a lot.

It will take a century to determine whether the Bulgarian bacillus really combats successfully the intestinal germs causative of old age It does not require five minutes to decide that fecal toxemia is not conducive to health, happiness or longevity. We are only dimly conscious of the part possibly played by the leukocytes in our economy, and a study of these may bring us closer to a knowledge of the vital principle than we should have thought possible a few years ago.

Are they *always* friends?

Meanwhile—keep your eye on nuclein.

If I had ten million dollars I would spend every cent to make people kinder, gentler, more tolerant. It can be done. The people can be made to see that kindness is the only religion that is worth anything, and that cruelty is the supreme sin. And I even know how it can be done. —Dr. Wm. J. Robinson, in the Critic and Guide.

TRANSMISSION OF INFANTILE PARALYSIS FROM PERSON TO PERSON

It has been pointed out with sufficient emphasis that the people at large, and physicians in particular, often are anything but consistent in their views concerning the economic importance of the transmission and danger of infectious diseases. An epidemic of scarlet-fever, diphtheria or smallpox that demands a hundred or even two hundred lives as a sacrifice causes a hysterical activity on the part of the health-authorities, and, on the part of the people, indignant protests that such things are permitted to occur. Yet, the same people view almost with complacency or maybe a mere shrug of the shoulders the fact that other diseases, more particularly pneumonia and tuberculosis, destroy thousands of lives where the others kill hundreds. It has been said correctly that, if the people and the medical profession would fight pneumonia, typhoid fever, and tuberculosis with the same energy and persistence that they manifest in the struggle against the three infectious

diseases, diphtheria, scarlet-fever, and small pox, named above, those greatest factors in the mortality of the nation would be all but eliminated in a short while.

The present epidemic of infantile paralysis presents an instance in point. We are not suggesting that the mortality and the danger from this epidemic are negligible, and we realize fully that infantile paralysis carries worse trials and greater disaster in its train than do the other diseases, because of the sad and heartbreaking disabilities which it produces in the majority of those who recover from an acute attack. It is, therefore, quite easy to understand the fear of this disease that prevails among physicians and laity alike, and it is but human that the attempts to eliminate and exterminate the epidemic should overshoot the mark in many respects.

We believe that it is not wise to go to extremes with reference to the alleged transmission of the infection from person to person. Indeed, if the facts of the matter are considered, the logical conclusions would demand an extension of quarantine and of preventive measures that would be astonishing and impossible in practice. In a letter to *The New York Medical Journal* for August 26, Dr. Simon Baruch points ont that the direct transmission of the infection of infantile paralysis from person to person has not even been proved. He quotes dependable researches to show that any danger that exists from "carriers" incriminates adults and not children, and continues: "In view of the fact that poliomyelitis is rarely contracted from contact with an acute case, and of the accepted idea that it is mostly spread by adults, exclusion-quarantine should, logically, be enforced on adults rather than on children. Rigidly enforced, such a quarantine would stop all travel, with the result that public resentment would immediately terminate it."

It goes without saying that we are in cordial accord with all attempts to limit the further spread of this terrible disease, but we believe that these attempts should proceed along a reasonable line, the more so as it is quite possible to protect children and others who may be in danger of exposure to the infection.

The initial symptoms, while not absolutely characteristic, are sufficiently suggestive for at least a tentative diagnosis, and, as soon as suspicion arises as to the probable existence of infantile paralysis in a given person, it should be incumbent upon the physician in charge to provide everybody within reach with an efficient internal antiseptic. [illegible] for this latter purpose, we know of nothing better than calcium sulphide given to saturation. The curative value and preventive power of this remedy in infantile paralysis, has been demonstrated, and the treatment is so simple that we cannot think of any excuse why it should not be adopted.

Talk happiness instead of gloom and keep your face with smiles abloom. There's so much sorrow everywhere, so much of fear and carking care; that one who would increase the woe, we size up as a public foe. Too many people kick and knock; we hear too much depressing talk, too much of doubt and dole and doom—talk happiness instead of gloom! Talk happiness and you will fetch new courage to some hopeless wretch you brace up tired despondent men, so they will get their grip again; the message in your hopeful words will travel faster than the birds and help more people far and near, than you could number in a year. Oh, get the habit right away, while yet the year is young and gay! Make up your mind to can the whine and keep your eyes from leaking brine; behind your whiskers let there be a smile that speaks of faith and glee. Go down among the croaking boys and shame them with your cheerful noise. For life is short and we should strive to have our fun while yet alive; if we'd do that we must believe that it is foolishness to grieve; for doubts and fears we'll have no room; talk happiness instead of gloom.—Walt Mason.

THE MAILING OF "POISONS"—LEGISLATIVE RELIEF

Every reader of CLINICAL MEDICINE knows that for some time it has been deemed impossible to send potent medicinal preparations by mail, owing to a decision rendered by the Postmaster-General on this point. Under this ruling, such drugs as strychnine, aconitine, morphine, arsenic and arsenical preparations, digitalin, in fact, nearly everything having a powerful medicinal action, became unmailable. This ruling has continued in force for, now, two or three years, and, despite the efforts repeatedly made by representatives of the drug-trade and the medical and pharmaceutical professions, it has been found impossible to secure any modification of it.

Pharmaceutical manufactnrers are now generally sending the proscribed substances by express; however, when, in case of emergency only one, two or three items in small lots are ordered, the charges become almost prohibitive; while, moreover, many physicians in this country are located at a great distance from the nearest express-office. Think of the burden placed upon a physician residing fifty miles or more from an express-office and who has a patient in danger of dying for want of say, digitalin-tablets, or who, maybe, is refused a shipment of hypodermic tablets of

morphine because some distant druggist or his nearest jobber will not violate the law.

We have called attention, in CLINICAL MEDICINE, to this interpretation of the law more than once and have urged our readers to exert their influence toward securing its modification. Thus far all appeals in this direction have proved unsuccessful. At last, however, a bill has been prepared and submitted to congress, which, if passed, will give relief. This bill (H. B. 17396 and S. B. 6831), known as the Kern-Doremus Bill, confers power upon the Postmaster-General to admit to the mails "poisons and articles and compositions containing poisons that are not outwardly or of their own force dangerous or injurious to life, health or property," provided they are so securely packaged as not, through leakage, to endanger the mails or those handling them.

We urge every reader of CLINICAL MEDICINE to get behind this measure. Unfortunately, congress is now in adjournment; however, it will reconvene early in December, and at that time every physician and every medical society should endorse this bill and urge its speedy passage.

Count that day lost whose low descending sun
Views from thy hand no cancer cure begun.
—Life.

THE CARE OF CHILDREN'S TEETH

Some years ago, a dentist charged the writer very seriously and emphatically never to permit the teeth of his children-patients to be neglected; and this counsel has been faithfully heeded. It was with a good deal of astonishment that this writer read, recently, in the chairman's address before the section on diseases of children of the American Medical Association (*Jour. Amer. Med. Assoc.*, 1916, July 29, p. 323) the assertion that indifference to the subject of children's teeth pervades both the medical and dental professions, and that, indeed, many members of the latter seem wofully ignorant of the great importance of conserving children's teeth.

It appears that many dentists refuse to accept children as patients for the purpose of trying to save their deciduous premolars or even the first permanent molars, on the ground that it is "not worth while." The excuse is, that fillings, inserted for preserving the deciduous teeth will fall out in a short time and, consequently, must be replaced; that early decay of the temporary teeth does not injure the children; and that malformation or malocclusion of the permanent teeth can later be corrected, if it occur in consequence of premature loss of the deciduous teeth.

It is surprising that such a specious excuse can either be made or accepted at the present juncture. There are many reasons, immediate as well as remote, why children's teeth should receive the same painstaking attention which is accorded the permanent ones, and a failure to do this or a refusal on the part of the dentist to attempt to save the deciduous teeth until they fall out spontaneously is little short of criminal. We of the older generation, whose childhood was passed during the days when little attention was paid to baby teeth because they would fall out anyway, know from sad experience the distress and pain which is suffered, not only from aching teeth, but also because of the unsightly appearance of the decaying teeth; for, children are not without vanity—and it is just and right that they should wish to look as well as possible.

Aside from the fact that the appearance of a little tot with decaying baby-teeth is anything but pleasant, it must not be forgotten that this condition may affect the permanent teeth; that it gives occasion for a faulty, insufficient, onesided use of the jaws and, in consequence, to its faulty development. The esthetic point of view arguing in favor of attending to every slightest anomaly and irregularity of the body is, by no means, of small importance and may become a factor in deciding the future fate of the child, especially the girl-child.

Of even greater importance is the fact that an insufficient use of the teeth, in the case of small children just as much as in that of older ones and of adults, may be responsible for digestive disturbances of various intensity and extensity, and which may lead to serious gastrointestinal diseases, with all their possible sequels. But, most of all, should one pay attention to the care of the deciduous teeth on account of the ever present bacterial flora in the mouth of the child, even of the youngster that has not yet lost its baby-teeth. If any anomaly exists in the small mouth, if, for instance, caries develops, a portal of entry is given for various bacteria, which may cause swelling of the cervical lymph-glands and from there may be carried into various organs of the body, where serious disturbances and pathological processes may be set up.

A great variety of pathogenic bacteria have been found in carious deciduous teeth, and in recent years the importance and significance of "focal infection" has been insisted upon.

with great justice, by many investigators and clinicians. The care of the baby-teeth is, therefore, as much a wise investment for the preservation of health as is any other prophylactic measure, quite aside from the fact that much actual physical pain and mental distress will be spared to the little ones, which rotten teeth surely will cause them to suffer.

"There are thousands who tell you it cannot be done,
There are thousands who prophesy failure;
There are thousands who point out to you one by one,
The dangers that wait to assail you,
But just buckle in with the trace of a grin,
Then take off your coat and go to it.
Just start in to sing as you tackle the thing
That cannot be done, and you'll do it.

— Sparks.

A NEW WAY TO TEACH SANITARY SCIENCE

Beginning with the College of the City of New York, several of our medical schools are organizing departments of practical hygiene. The student now takes a personal interest in the matter, as it begins with him personally. *The Lancet-Clinic* informs us that the poky old burg on the Ohio has taken it up, and it jubilates warmly over the new department of hygiene of the University of Cincinnati.

The University of Wisconsin established for its 6810 students such a department in 1909. The cost of the system is stated to be $25,015. No fee is exacted from the students, their biennial incidental fee of $12 covering the costs.

Each student receives a medical examination at the beginning of each semester, and the facts gathered afford data for grouping the students academically and physically. The staff is made up of seven full-time physicians, five doing the clinical part, the others, the laboratory and x-ray work. Four nurses and as many student assistants as may be required complete the staff. Besides the entrance examinations, free advice is given all student applicants, free care and treatment, and instruction in personal hygiene, both individually and in the classes. An infirmary with 25 beds is maintained, to which the student-patient pays a dollar a day while confined.

In the college-year 1914–1915, the number of students consulting the staff was 3851, and these made 23,818 calls. The cost to the university, therefore, was somewhat over a dollar a call. The equipment consists of waiting- and consulting-rooms, clinical laboratory, radiologic laboratory, electrocardiogram-station, lecture- and demonstration-rooms.

The benefits derivable from such an institution are incalculable. The student's health is cared for, and he learns the principles and the practical application of that preventive medicine that for so long has sojourned exclusively in the well-turned rhetorical periods of the essayist. We might almost forgive Johns Hopkins for abolishing the chair of therapeutics, if it were to substitute a really effective teaching of sanitation.

STUDIES IN CARDIAC THERAPEUTICS

Many of the cardiant remedies act specifically upon the motor ganglia. Stimulation of these is shown by an increase in the rapidity and the energy of the cardiac contractions. This not only is observed when the drug has been introduced into the circulation of the animal, but also when it is applied directly to the heart. The stimulants of the motor ganglia are: alcohol, ether, chloroform, chloral, also other anesthetics, cyanogen, arsenic, quinine, and guanidine. We find that quinine, which doubtfully is ranked by Brunton as a depressor of the cardiac muscles, is placed by this investigator among the stimulants of the motor ganglia. Guanidine is ranked by him as a stimulant in both the lists.

The observations of Thomas J. Mays indicate that the stimulant power of the alcohol, or anesthetic, group is manifested only under small or even quite minute doses. This certainly is true also as to cyanogen, in which latter the stimulant dose is exceedingly minute.

Depression of the motor ganglia is evidenced by the pulsations of the heart becoming closer and weaker, the organ finally stopping in diastole. That this is owing to some influence upon the ganglia, and not upon the cardiac muscles, is evidenced by the heart's contracting upon mechanical or electric irritation after spontaneous pulsation has ceased.

The depressants of the motor ganglia are ergot, hydrocyanic acid, antimony. (The arrest in diastole caused by antimony is changed to stoppage in systole by helleborein.) The drugs that in small doses stimulate, when used in larger quantities or at a later stage, depress the ganglia.

Members of the digitalin-group should be employed when it is desired to increase the energy, but not the rate, of the cardiac contraction, and also the peristaltic activity.

The camphors accomplish all this, excepting the increase of peristalsis.

The anesthetics also increase the rapidity of the pulse. The application of the remedies of this group requires especial caution, in that, while small doses given early stimulate the motor ganglia, if this stimulation is carried on to a certain degree, exhaustion of the irritability results, whereupon further dosage not only will cease to stimulate, but even will cause depression of this function. This is especially true for the anesthetic, or alcohol, group.

The difference between Opportunity and the rest of us is that old Op knocks but once.—Luke McLuke.

STUDIES IN CARDIANTS: THE INHIBITORY GANGLIA

The danger lying in the careless use of the term "stimulation of the heart" becomes evident when we consider that stimulation of the cardiac inhibitory ganglia will stop spontaneous pulsation of the heart, even though it will continue, for a while, to contract after the application of an irritant. The stimulants of these inhibitory ganglia controlling the cardiac muscle are muscarine and pilocarpine.

Depression or paralysis is shown when irritation of the vagus trunk or of the venous sinus fails to slow or to stop the heart beat; and then muscarine will have no effect when applied directly to the heart-muscle.

The depressors of the cardiac inhibitory ganglia are: atropine, hyoscyamine, daturine, duboisine, cocaine, sparteine, and saponin. Merck asserts that the four members of the mydriatic group here mentioned are merely atropine with varying percentages of admixtures of hyoscine, these two alkaloids being the only ones which he admits to exist in this group. Saponin, is ranked as a depressor of the heart-muscle, but its sedative action seems opposed by a checking of inhibition. The asserted heart-tonic action of cocaine is explained in the same way, and possibly a part of the tonic action of sparteine; although with both this seems largely due to their vasorelaxant power, as by opening the terminal arterioles and capillaries, the work of the heart is eased. These remedies are, therefore, effective and safe when we wish to increase the work of the heart as a whole. However, recognizing that the action of cocaine and sparteine is depressant in the final analysis, they should be used with extreme caution and close watchfulness.

Muscarine has scarcely been employed in medicine, because of the extreme difficulty of obtaining any physiologic effect from it. It is so swiftly eliminated by the kidneys that it seems almost impossible to secure its action, excepting by intravenous administration. This method remains to be developed.

At the present time, pilocarpine is exclusively used for the purposes mentioned above. This remedy offers a rare illustration of an extraordinarily powerful action, with a singular absence of peril. The tremendous perspiration induced by pilocarpine is not usually attended by danger to the patient. Even so, probably the degree to which toxemia is responsible for much of the danger to patients, not only in infectious diseases, but in ordinary conditions, is to be taken into account. Whereas the perspiration induced by pilocarpine contains one-half as much toxins as does normal urine, ordinary perspiration contains but one-tenth the amount; hence, the quantity of toxic matter excreted by pilocarpine-sweating is enormous.

The limitations of the application of this powerful remedy have, by no means, been established as yet. Much remains to the clinical observer for the study of its action in various infectious maladies.

"THE WHOLE PLANT VERSUS ITS PARTS"

A recent issue of *Monthly Therapeutic Topics*, published by the N. A. R. D., contributes quite a lot of information for the doctor's use. The article is couched in the kindest, most forbearing terms, really quite paternal, from the standpoint of an affectionate father imparting instruction to a rather small boy. This may be judged by the fact that the instruction imparted has no relation whatever to matters in which the druggist may be assumed to have knowledge to give us, but is a matter supposed to come under the doctor's ken and in which one might imagine he could instruct the drugman—the choice of medicines for the treatment of the sick. Just listen:

Our mentor tells us that it is not the employment of the active principles, but of the crude drugs, that constitutes real medicinal treatment. In other words, it is the inert parts of the plant that cure—the inactive woody fiber, cellulose, gum, pectin, tannin, and such like. The really active parts may have their uses, but these are, at best, only

limited, and the doctors err in placing too much dependence upon them, "and, as a result, get into the habit of treating symptoms only and forget to treat the more serious underlying disease itself."

Now, this suggests a remedy—let us have evening classes in which the druggist teaches us how to practice medicine: "Sorter" postgraduate course. Without this, how expect a mere doctor to know what he ought to do for his patient? Instances—

"Quinine does not represent cinchona or equal it as a tonic." Queer that our adviser does not begin at home and tell his big men to quit using the alkaloid in their elixirs of iron, cinchona, etcetera.

"Nux is far superior to strychnine, except in hypodermics." Same suggestion—the pharmacist uses the alkaloid to get a better preparation.

"Digitalis"—the uncertain, decomposing infusion and tincture are superior to the uniform, dependable glucosides the digitalin which France has used for half a century without caring to look for anything else.

"Except for hypo, morphine is far inferior to deodorized opium." How? In certainty, uniformity, rapidity of action, palatability, ease of administration, foreknowledge of effects to be expected, the scientific basis established by experimental investigations—oh, what's the use! If the man does not know what he is talking about, how hope to teach him.

But, here's another "argument": "It makes all the difference in the world if the active principles are prescribed in the combination in which they exist in the plant." Why? Where is the proof? This is one of those silly assumptions that are based on a lack of thought; for, even a very little should tell the man that the active principles are developed in the plant for its own purposes, and not simply to be stored there until man happens along and utilizes them.

"Why do people drink coffee instead of a solution of caffeine?" Easy—because they like the coffee. And why do the drugmen present us a coffee deprived of its caffeine? The same reason explains why smokers use tobacco and not nicotine—they like tobacco.

The notable things about this curious publication are, dense ignorance shown as to our application of drugs and the assumption of similar ignorance on our part, as compared with the writer's own superior erudition. He is on a par with a certain illiterate chap (he could not read), who, seeing an artist sketching, undertook to advise him how to paint so that he might get as much as 25 cents for a picture.

We should be under obligations to our friends of mortar and pestle were they to take the following propositions and find a flaw in the argument.

1. Drugs are substances that affect one or more of the functions of the body, influencing them toward normal action.

2. Drugs—plants and ores—contain active ingredients and inert materials. If the latter have any physiologic action, they are not inert. If they possess none, they are merely dirt, encumbering the active parts, making the doses larger, disagreeable, and slow in getting to work.

3. The action of a drug—plant or ore—is the sum total of the action of its various active ingredients, acting and interacting with and on each other.

4. The active principles of a plant or an ore are developed in accordance with the conditions of the plant or the ore, and their use as medicine is incidental and foreign to those governing their formation.

5. The active principles developing in drugs are variable in quantity and proportions, never quite the same in any two specimens.

6. The action of the raw drug varies with the composition, the quantity and the proportions of each of its active ingredients.

7. Every series of tests applied to the galenics found in the shops has demonstrated their variability over a scale so wide that the only way the doctor can know the real powers of these drugs is, by trying them on the patient—thus losing valuable time and endangering the patient's life.

8. To ascertain the real powers of drugs, the experimenters were driven to the single active principles, since the variability of cruder preparations rendered accurate testing impossible. As a consequence, we have the powers of single active principles laid down with an accuracy impossible with any cruder preparations. This renders scientific application of these activities possible in accord with modern needs.

9. It is the uncertainty of the older preparations that is mainly responsible for the pessimism of a large part of the medical profession toward drugs and its desertion of them for any and every drugless method of treatment. So profound is the contempt for drugs thus engendered that it is difficult to persuade many that there is anything in any drugs worthy of consideration.

We shall be obliged to the N. A. R. D. folk if they can show a flaw in a single one of these

propositions, employing common-sense arguments, and not appeals to superstition, prejudice, tradition, or appeals to "authorities" who are governed by the foregoing. Show us, please

For the comforting warmth of the sun that my body embraces.
For the cool of the waters that run through the shadowy places,
For the balm of the breezes that brush my face with their fingers,
For the vesper-hymn of the thrush when the twilight lingers,
For the long breath, the deep breath, the breath of a heart without care,—
I will give thanks and adore thee, God of the open air!
—Henry Van Dyke.

SWATTING MAN—THE BRUTE!

In *The Woman's Medical Journal* for August, Inez O. Philbrick, a she-female lady doctress of Lincoln, Nebraska, contributes a paper which, the title informs us, is devoted to the advocacy of "a municipally salaried obstetrical staff." Said title is a misnomer—the lucubration celebrates the opportunity of the lady to express her inner, low-down, sure-enough opinion of man—the tyrant—the brute. And the opportunity is embraced with an ardor that speaks volumes for the pent up emotion back of it.

How she enjoyed it! Wow!! Delivered before a public meeting, presumably of sister women animated by similar sentiments, the only thing lacking, was, a man, to hear it. And he should have been a typical one—a burly brute, well-fed, smelly of tobacco and booze, of the sort who sit behind the kitchen stove and smoke while their better halves cook for boarders and attend to the household, in the intervals between having babies—yes, this specimen should have been bound securely in a chair, facing the speaker, mouth gagged, but ears propt wide, while the fair lady gave vent to her emotions.

Doctor Philbrick starts out rather inoffensively. She approves of the state's assumption of medical teaching, and even goes one better, by proposing to "substitute a salaried service for the privately paid service of the well-to-do." We write under the well-deserved reproach of having accepted fees. Well, as Holy Willie said, if the Lord leaves us this sin just to keep us from overconceit, because of our gifts, we shall try to endure it with resignation.

Obstetrics in Lincoln, Nebraska, must be in a bad way, judging by Doctor Philbrick's account. Listen to this: "In these latter days, obstetrics has suffered, more than any other branch of medicine, from incompetence and exploitation, not because originally practiced by ignorant women upon women, but because latterly practiced by largely incompetent ill-trained men upon women, from mercenary motives. A society dependent upon and dominated by brute force, giving to man possession of woman, could but engender in men a contempt and in women a servility leading inevitably to their exploitation by men. And so it has been sexually, industrially, socially, and professionally."

Now
will
you
be
good!!!!!

Having reduced the brute to proper abjectness, the lady proceeds to correct the Bible: "Biology and sociology prove the writer of the story of Genesis to have fallen into grievous error in declaring that woman was created as a helpmeet for man. Science establishes the reverse."

John, when you have washed the dishes, carried in the wood and filled the water-bucket, you may iron out my shirtwaist and then go back to your plowing.

"It is man's misfortune that to him should have fallen the coarser, baser functions inevitable to the early ages of struggle, and woman's fortune that to her fell the finer part. Future progress for the race must consist in sloughing off those predominant qualities engendered in man by his experience and the taking on of those engendered in woman by her experience."

We have puzzled and pondered over that clause for a good while, but, somehow, the meaning intended to be conveyed eludes our gross, masculine comprehension. What is it we are to slough off? Does she mean our pants?

Inez then puts her desires, not in the slavish manner of a request, but as a demand, haughtily leveled at the heads of the cringing enemy. She summarily dismisses all menfolk from obstetric practice and placidly takes it over for the hens, and she establishes for them a state-paid salary in compensation.

All the doctors in the home town of William Jennings Bryan attend obstetric cases, except the eye-and-ear men. And why *they* should surrender this lucrative field is a mystery, for sure—have not babies eyes and ears, and, hence, are they not legitimate prey? But, none of the doctors there,

according to Inez, are any good as aids in delivering babies, but they take the cases from the unworthy object of winning the good will and the other practice of the families involved. How mean! One prominent practitioner, even, is accused—inferentially—of assisting the Christian Scientists to believe that babies are realities—"and just for the fees he gets out of it! "Five years from now, I doubt not, a majority of those on this list will have found a sufficient number of financially sound individuals willing to be relieved of their appendices, drained of their bile or cured of their kinks to enable him to retire from obstetric practice." Nezzie, you'll have to diagram that—we submitted it to a surgeon, and he says he can not guess what you are trying to intimate. The only thing suggesting itself to his mind is a thought too monstrous to be put on paper.

"Worse than there being all degrees of technical knowledge" (among the he-midwives there) "and skill represented, there are, necessarily, found all degrees of social intelligence and of recognition of moral responsibility to the patient, to society, and to the physician's own conscience." Now we strike firm ground—social intelligence—and we know the malefactor—a Lincoln doctor we once saw on the street wearing a sack-coat and a plug hat. How perfectly awful!

Phil, old scout, I wouldn't have believed that after such a vitriolic arraignment of your coarse-grained colleagues you could have been guilty of sacrificing the Right to the Expedient, of foregoing a duty, for mercenary motives, as you here acknowledge: "Several times in recent years, I should have induced premature labor, to the saving of some children, had I not been dissuaded by the fact that it is not recognized procedure among my obstetrical colleagues, and by the certainty of subjecting myself to the accusatory criticism of myself as a meddlesome obstetrician and to undeserved loss of patients and professional prestige." And you let human lives be lost rather than face criticism *and loss of practice*?!

And the doc knows it pays to advertise: "Should one among us advertise (not through press or from platform, but in those quiet and effective ways known to ethical practitioners) that hereafter he would confer the blessing of twilight sleep upon every patient employing him in childbirth—primipara or multipara, first or second stage—we should have no choice if we cared to retain any considerable obstetric practice, but at least make a feint of doing likewise." Bully ad, that. Abbott better grab it!

But, Doctor Philbrick, do you make a practice of promising your patients things you do not intend to do, merely from base commercial motives? We fear you have been looking at your fellows through green glasses.

Does the same contempt for the narrow limitations entailed by respect for veracity rule the defense of midwives because they are female? How shall we interpret this:

"Midwives still attend a vast number of obstetrical cases, and with comparatively little mortality and morbidity. And when a midwife's case goes wrong it is generally because she has lost patience and courage and called in a doctor. . . . The ordinary operations of housekeeping necessitate the frequent thorough cleansing of the midwife's hands; she attends no infectious cases; she performs no unnecessary operations (Ouch!) . . . . It was a royal prostitute who set the fashion for the eminently unfit employment of male obstetricians." Unless memory tricks us, that court lady employed a man, so that, she gave as an excuse, the particulars of her accouchement might not be tattled all over Paris.

Before accepting the lady doctor's dictum as to the midwife, hunt up Cuzner's awful account of her—that is, the midwife's—work in Florida; a record that shocked the community and well deserved its title as "legalized malpractice."

Just a few more gems:

"Men are disqualified as obstetricians, for lack of interest. . . . . Men through age long training, have become regardless of human life. . . . Who are responsible for the waste of life on Europe's battlefields today? Who are exploiting women and children in industry? Who are exploiting women's highest function, her sex-function, to base and cruel ends in the white-slave traffic? Who are sacrificing happiness, health, and life itself in the liquor-traffic? Who tramp this land by the hundred thousand filling the public benches of every city? Who are deserters of home and children?" Why, it's the darned men, of course.

Now, if you rascally men doctors feel sufficiently squashed, hear the lady's remedy:

Ten doctors, connected with a municipal maternity, are to care for all of Lincoln's baby cases. (We did not know that there were just ten lady doctors attempting to practice in Lincoln!) They are to receive salaries that afford them "abundant periods of leisure for medical and general reading and for needed

participation in medical, social, and political affairs." Sure—and the women must arrange their dates so as not to conflict with the pink-teas.

The woman of it inevitably comes out: She would have all obstetric procedures set by law, with no deviation on individual initiative; yet, the nurse must be freed from the obligation to "stand by the physician" and allowed to disobey when her judgment does not coincide. One real fact is uttered: a one-year nurse will answer for routine cases, the graduate being required for emergencies only. Nix on the 25-a-week.

"Time forbids," . . . fortunately the lady's breath gave out here, and we are spared quite a lot more of what she was ready to say. But, then, the above suffices. Doctor Inez probably feels better now that she has rid her system of all that, even though not all of it escaped.

The best way to inspect the abdomen is with the feet toward the light.—Hamburger, in "Medical Clinics of Chicago." Whose feet?

LIVE STOCK AND POISONOUS PLANTS

The Bureau of Animal Industry of the Department of Agriculture has issued a bulletin on the prevention of loss of live stock from plant poisoning. From it we learn that the losses of live stock on the western ranges for many years, have been quite heavy. Losses from infection and from wild animals are very slight as compared with those from poisonous plants. Local losses of from five to fifty percent are not at all unusual. Deaths from larkspur, among cattle, up to ten percent are quite common, while the losses of sheep, from death-camas and lupine, frequently run from ten to sixty percent. These losses are not occasional, but continuous. Heavier in some years than in others, every year has its story of these deaths. Nothing else constitutes such a grave problem in the successful handling of live stock on the ranges as this matter of dealing with poisonous plants flourishing in a given area.

Several methods have been proposed to eradicate these pests. One is, by reseeding the range, so as to grow the desirable grasses and thus crowd out some of the noxious wild plants. Theoretically this may be possible, but experience gives but little hope for practical success. Thus, the attempted destruction of the loco-weed has not been successful. Sheep will accomplish a good deal in the destruction of low larkspur, which does not appear to be poisonous to this animal; however, as this plant is perennial, it is not easily exterminated.

The most effective way of getting rid of the plants, thus far tried, has been the very laborious one of digging them out. The loco may be killed by cutting it off below the crown of buds, or 3 inches below the surface. This should be done before the plant has ripened into seed. In this way, a man can clear a quarter section very rapidly, and at slight expense. As this plant may remain dormant in the soil for some years, the cutting has to be repeated.

The larkspur grows in masses in box-canyons or about springs, and it is not difficult to root it out. The price of one or two steers pays for a large amount of work. When larkspur is scattered over a wide area on the hillside or in the valley, the expense of rooting it out is greater than the range is worth. However, if the larkspur about the springs is cleared out, the cattle are not likely to die, since they are not poisoned unless they eat considerable quantities of the plant.

Water-hemlock grows along ditches. The best way is, to dig or pull out the roots. Death-camas grows from a bulb and in such enormous numbers that the cost of digging would be greater than the value of the range; and this is also true of lupine and sneezeweed.

Death-camas, however, is a spring plant, which dries up after blossoming and disappears. The sheep are poisoned by it mainly in May and June. If the range is not turned over to these animals until July, the danger is over.

Lupines are most dangerous when the pods are full of seeds, as it is they which contain most of the poison. Lupine-poisoning, therefore, occurs in late summer and fall, and the danger is greater in wet seasons. They should, therefore, be avoided in the late summer and fall.

Low larkspurs have largely disappeared by the 1st of July, except at great elevations. Tall larkspurs do not die until killed by the late frosts. However, they gradually lose their poisonous properties in every part of the plant, except the seeds, and these the cattle seldom eat in quantities.

The loco-plants affect all grazing animals. Cattle and horses rarely suffer much from death-camas, so that they may be grazed where sheep would be poisoned. The lupines are much more dangerous for sheep than for cattle and horses. The larkspurs are deadly

for cattle, but do not poison horses or sheep. Horses never eat enough of larkspur, under range conditions, to harm them. Sheep find the larkspur a good forage-plant.

It is only when more wholesome food is deficient in amount that the cattle consume the poisonous plants in large quantities, so that supplying an abundance of wholesome food is a good preventive. This does not apply to the loco-weed, which is a veritable habit-plant to grazing animals. Animals turned directly from the cars into a pasture are especially liable to be poisoned if they are not well fed before being turned loose. Animals should not be bedded two successive nights in the same place. They should be drifted and not driven, so as to allow them a wider range and freer choice in the selection of their food.

The surest way to get rid of an objectionable product, like these poisonous plants, is, to make of it an article of commerce. The Turks rid Cyprus of the locust by buying its eggs. Ginseng, hydrastis, and other valuable plants have been practically exterminated by the authorities putting a price upon them, and even when hydrastis brought in the market only 20 cents a pound the entire eastern part of our country was denuded of this extremely valuable plant.

It is mentioned in the Bulletin before us that death-camas contains veratrine, while the larkspur has delphinine and the water-hemlock cicutine, three exceedingly powerful alkaloids, which are of inestimable benefit to mankind.

If we collected our own wild plants, instead of importing them from foreign countries, we should accomplish a double object; by gathering them we could utilize the natural product and at the same time prevent their killing our herds. Range-men should encourage the shepherd to vary the monotony of his life by collecting these plants, and this he is more likely to do if he is given a premium for doing so. If he is given the proceeds of their sales, his occupation would be more lucrative, and a corresponding benefit would accrue to the range.

We have, for years, urged paying attention to our native drug-plants, and now are glad to notice that the most recent observations show that American-grown digitalis actually is superior to that for which we have been paying England and Germany up to $2500 a ton. The Northwest, where the foxglove has become an objectionable weed, might find it considerably to its advantage to cultivate this plant, at a very considerable reduction of these figures, even if they can get $15.00 a ton for alfalfa.

It is not always fair to the medical man to charge him with incompetence because he is unable to express a positive opinion. In some instances an honest confession of failure is a sign of ability.—W. S. Gordon.

LABORATORY TESTS OF DRUGS—ENDOCRINE SECRETIONS—PSYCHIC INFLUENCE

The Therapeutic Gazette for May 1916, in referring to the popular belief that bitter tonics are beneficial during convalescence from acute diseases, in that they aid digestion by increasing the tone of the gastric mucosa or by inducing a freer secretion of gastric juice, points out that this view seems to have been proved mistaken by some experiments conducted by Carlson upon normal men and also upon healthy dogs. For, this investigator found that bitter tonics do not produce any advantageous effects, but, rather, that sometimes there is observed a diminution of the quantity and the quality of the gastric secretion.

Since then, Moorhead has carried out another series of investigations, in which he studied, not normal, but abnormal, conditions; in view of the fact that certain drugs exhibit their specific actions only in pathological states. Moorhead actually found in dogs in which chronic anemia had been produced by repeated bleedings that bitter tonics exert a distinctly favorable influence upon the appetite. Also, given by mouth, the amara cause both an increase in the quality and the quantity of the gastric juice; although this effect does not follow when they are introduced directly into the stomach, thus excluding the buccal cavity. This would seem to indicate that the flow of the gastric secretion is caused reflexly through the nerves of taste, and not by any direct stimulation of the stomach itself.

Moorhead then puts the question whether the bitter tonics do actually stimulate the appetite or the gastric secretion, or both, or whether their action is purely psychical.

The results of pharmacological experiments, more particularly upon normal animals, have given occasion to the verdict that no physical action of the drugs under investigation could be determined and that any effects claimed by clinicians to result from them are purely psychical—the inference being that the drugs in question are to be condemned for that reason, being without any merit in the cure of disease. However, the incorrectness of this line of reasoning should have been sufficiently

demonstrated, it seems, by the famous experiments conducted upon dogs by the late Professor Pavlav, who found the secretion of gastric juice to be stimulated by the mere sight of food, as also by letting the animal swallow food, which was made to pass out through an esophageal fistula without having entered the stomach

More recently, the influence of the emotions upon the nutrition, the circulation, and the nervous system has been described at some length by Professor Dearborn, in his excellent book bearing the title "The Influence of Joy." This author also refers to the fact that the functioning of many organs—for instance, the stomach—is influenced by that of the endocrine glands; yet, the important fact remains that none of our pharmacological experiments concerning the action of drugs upon the digestive organs, the circulation, the nervous system, and so on, take account of any indirect effects possibly manifested through the agency of the glands with internal secretions.

As a matter of fact, however, pharmacological and chemical experiments designed to establish or to disprove the therapeutic properties of any given drug can not be admitted as capable of providing the means for any final and decisive verdict, if they ignore the influence of the ductless glands.

Even in animals, the presence of pathological processes as well as their nature, will give rise to effects different from those observed in the healthy state; yes, even in animals the influence of the emotions, with regard to the action of certain drugs, is a factor that must be reckoned with.

But, far more than animals, is man a compound of physical and psychical elements. If the human body has been likened to a finely regulated complicated bit of machinery, the motive power cannot be said to be supplied solely by the physical fuel that is introduced into his mechanism, nor is its activity regulated by the function of the various vital organs alone. The "psychical" component of man influences all vital processes to a far greater extent than seems to be realized in the pharmacological and chemical laboratories, and the clinician has learned from sad experience not to rely implicitly upon the "thus sayeth" of the research-worker, lest he be led into an undue confidence in some respects and thus forego whatever aid might be obtained from others.

Supposing it were true that certain drugs—the bitter tonics, for instance—exert an influence that is "purely psychical," then I am moved to ask: "What about it? Does that fact cause these drugs to be valueless?" I deny it. Being admittedly constituted of physical and psychical elements, man must be, and is, influenced both by physical and by psychical agencies. The sick man or woman or child wants to get well; nor does anyone care much what means are employed to restore wellbeing, so long as there are tangible results. Supposing the physician does employ means the action of which is "purely psychical" and supposing the patient gets well and remains well, who shall say that the physician has made use of improper means; who shall accuse him of not having earned his fee fairly?

There is an unfortunate tendency, more particularly among laboratory workers and others not in actual practice, to maintain that only one mode of treatment is appropriate for a given disease, to wit, the one they approve of; the one which is demonstrable in the laboratory. Other modes of treatment are, "purely psychical" in effect. If the patients recover—well, either they did not have that particular disease, or they still have it. There is no god but God, and Mohammed is his prophet.

Physicians — even though necessarily money-earners—more than almost any other class of men have cause to get away from the purely materialistic view of life; they see the importance of the psychical, they know its influence upon the wellbeing and happiness of man.

It is time that the calling in aid of psychical therapeutic factors, irrespective of their apparent nature, be recognized as proper, even if administered in the form of drugs. I am aware of the fact that this may be taken as an argument in favor of valueless placebos. As a matter of fact, I am convinced that conditions arise when placebos are far from idle, that, indeed, at times they even have saved life, although (or because) their action may have been "purely psychical."

AN ENCYCLOPEDIA OF SEX

Dr. William J. Robinson, of New York, is working on a great encyclopedia of sex. While all available authorities are being consulted, the majority of the work will be prepared by him personally. This book promises to be colossal—covering every phase of this great subject so far as is now possible. Robinson is the man to do this, and this latest child of his brain is sure to be a masterpiece.

Leading Artieles

What A Hospital Can Do for A Country Town

By J. M. French, M. D., Milford, Massachusetts

FOR more than thirty years, I have practiced medicinine a country town about 33 miles from Boston, which has now a population of a little over 13000. Up to 1903 we had no hospital; but since that date we have had one which is thoroughly modern and well equipped. Beginning with 15 beds and a little over 100 patients treated the first year, we can now accommodate 45 patients, treated about 700 last year, and there is a prospect of increased accommodations in the near future, to enable us to meet the constantly growing demand. We have a prosperous training school for nurses, also a new nurses' home with rooms for 45 nurses, which is equal in its equipment to any in the state.

In my estimate of the value of a hospital to a country town, I must, necessarily, refer to what it has done for my own town.

For one thing, a hospital makes any town a better place to live in, because it furnishes the opportunity for better care and treatment of the sick. Of all the classes in a community, a hospital is of the least value to the wealthy, because they alone can afford the best of care for their sick in their own homes. It is of more value to the fairly well-to-do, who make up the bulk of most country towns, because it offers to them better care for less money than they can get at home. It is of by far the greatest value to the really poor, who cannot provide any proper care for their sick at home, and who must, therefore, without the hospital, either do without proper care and nursing, or else both doctors and nurses must serve without compensation—and even then, because of the lack of proper conveniences, the best results cannot be obtained. But, with the hospital conducted as most country hospitals are today, the sick poor can have the best of care, at whatever price they are able to pay or at no cost at all to them if they are very poor and unable to pay anything. Dr. Richard Cabot, you may remember, asserts that only the very rich and the very poor can afford to have the best of medical care and treatment; and, while I don't accept everything that Richard Cabot says, there is something to this statement of his.

Deserving Poor Must be Given Preference

We began our hospital without any endowment and with no provision whatever for free beds or free treatment. But, even under these circumstances, one of the first lessons which was taught to the medical staff by the president of the hospital was this: "When you have a patient who is seriously ill and in need of care and attention that can not be given him at home, *the hospital is the place for that patient.*" So, we learned to bring them in, taking care that provision for payment should be made by all who were able to pay; but when one was wholly unable to pay we brought him in just the same, and let the hospital-authorities look out for the rest. As a rule, when the patient and his friends are unable to pay, the town looks out for the case.

A few years ago, I had under treatment a man seriously ill with pneumonia, whose home was an example of filth and destitution, coupled with ignorance and inefficiency, the worst that I have had to deal with in a long time. It was impossible for him to have any decent care at home, so I tried my best to have him taken to the hospital when he first was taken sick. However, his wife refused to let him go, and it was not until he had been ill nearly two weeks and it became evident that without better care he stood almost no chance of recovery, that she finally consented. He had became so weakened as to make his removal a source of great danger, and he was considerably worse at first as the result of it. After a long illness, however, he recovered—owing, no doubt, to the better

conditions at the hospital, as compared with those at home.

Sometimes the hospital is filled, when it is a question whether a patient who ought to be there can be received or not. In such cases, I suppose, every well-regulated hospital decides, not in favor of the one who can pay the most, but of the one who needs hospital care the most—which is practically always the one who can pay the least Thus, once I had a patient dangerously ill and in need of care such as he could not get at home. I knew the hospital was overcrowded and had absolutely no beds available; so that, if my patient had been one who could have proper care at home, he would have been refused admittance. So, instead of asking whether there was room for him, I said to the management: "Here is a man who is in urgent need of care that he cannot get at home—I think we shall have to make room for him, somehow." And they did make room for him—how, I do not know. Now, I am sure that you will agree with me that any institution which will do these things gives increased safety to the life and health of all the people and is a blessing to the community as a whole.

Many and many a case I had in the pre-hospital days, where we doctors ourselves suffered anxiety of mind and our patients suffered both in body and in mind, because we were unable to furnish proper care and secure expert advice and treatment, medical or surgical, in season to be of any service. We had no place to take them, no facilities to care for and treat them—and, so, they died. While now, with our hospital right at hand and skilled consultants within easy reach (the best to be found in the state and to be brought to the hospital within scarcely more than an hour), and then with the best of nursing-care to help out, during and after an operation, and to carry out our directions in every respect—with all this now, I say, our patients live where in the olden days they died; and moreover, the practice of medicine has in it nowadays, more enjoyment and less anxiety than in the past.

Direct Personal Advantages Accruing to the Doctors

The hospital is the best thing I know of to bring the doctors together in a friendly way, get them acquainted with each other, and lead them to appreciate each other and be fraternal. Just put a lot of doctors at work together in a hospital, whether all be on the staff or not, and each one soon learns that the other fellow knows some things that he himself does not; that, anyway, they can be a help to each other. For ourselves, thirteen years ago, some of our doctors were not even on speaking terms with some of the others, and no one of us was on really good terms with all of the others. We just held up our heads, stuck out our elbows and went our several ways. But, today—oh, we are not angels yet, any of us, but most of us are on friendly terms with all the others and without exception we can, and do, work together when occasion requires.

The hospital is of advantage to the doctor, because to it he can take his very sick patients, his especially difficult cases, his poor people who cannot be cared for properly at home, his rare and obscure cases, those needing expert aid in diagnosis and all those calling for difficult surgical operations, with the certainty that here they will have the benefit of the best obtainable medical and surgical skill and far better care and nursing than would be possible in their own homes.

Another way in which the hospital helps the doctor, and incidentally the community as well, is, by bringing the best men of the profession together there, and thus, through consultations, observation, assistance, and exchange of experiences, developing in the local physicians a greater degree of ability and skill than they would obtain otherwise. I know that this has been true as to our own hospital, notably with respect to major surgical operations.

In the first year of our hospital, almost all of the abdominal surgery, for example, was done by our consulting staff, who came from Boston and from Worcester to operate for appendicitis, gallstones, gastric ulcers, uterine and ovarian tumors, and the like; when today nearly all this work is done by our own men, and well done, too. This makes them of more value to their patients outside the hospital, and, thus, increases their earning power. In this way, as a result of their added experience, these men are recompensed for the work which they do in the hospital without any direct pay; and, while there can be no doubt but that the hospital does really take much money from the doctor's pocket, yet, I have never noticed any great hesitation, either here or elsewhere, on the part of members of the medical profession, in accepting appointments on the hospital-staff. It looks, therefore, as though this were an arrangement advantageous to both parties. And, with every improvement in the average skill of the local medical profession, the whole community is benefited.

Another convincing proof that a hospital is an advantage to its community is found in the fact that, so far as I can learn, it is an exceedingly rare thing for a hospital, once established in a country town, to be given up; also the further fact that the use of the hospital by the people of the surrounding towns having none of their own, almost surely continues to increase from year to year. Furthermore, in our own case, the number of patients treated during a whole year has increased regularly from year to year, with one exception; this exception being due to the fact that a disastrous fire occurred, which put a large number of burned persons in the hospital for treatment, so that the natural growth for the next year was not enough to make up for it. Our average increase during our whole existence has been about 50 patients each year, and there seems no likelihood that the ratio will decrease for a long time to come.

How to Conduct a Hospital

There are a good many ways of running a country hospital, some of them good, some of them—not so good. Ours is an "open" hospital, into which any reputable physician can bring his patients and treat them himself, receiving such compensation as he and they may agree upon. This relates to the private rooms, and not to the public wards, where the rates are less; and, while patients may be admitted to the wards by any physician, yet, the care of them rests entirely with the staff, since in no other way can they be made responsible for the conduct of the wards. But the members of the staff, while attending all ward patients free of charge, are allowed to charge their usual rates for treating patients in private rooms. In this way, the doctors gladly send their private patients to the hospital, and do not feel that the hospital is working against their interests.

The business-end of the hospital is run by a managing board, which is composed mainly of business men, but with two medical men recommended by the staff to look out for the medical and surgical interests of the hospital; and during the thirteen years of its existence, in only a single instance has there been any disagreement between the medical members and the full board, in any matter relating to the medical management of the hospital.

On our staff is one homeopathic physician; yet he was not appointed as a homeopathist, but as a physician, and serves exactly on the same terms as do the other members. In fact, we recognize no difference; and this is made the easier, as he serves on the surgical side. By our arrangement, two men serve together, for a term of two months, one looking after the medical cases and one after the surgical, but both cooperating whenever it is necessary. This arrangement has proved very satisfactory.

The Training School

Another and important way in which the hospital benefits both the doctors and the whole community is by its valuable nursing service. Our training school provides a three years' course for the nurses, and during their second and third years these nurses are sent out into the homes of the community to do private nursing when called upon to do so by the citizens and they can be spared by the hospital. This is considered a valuable addition to the training of the nurses, combining, as it does, theory and practice under the supervision of their instructors.

If a nurse is graduated and sent out to do private nursing, when she has had no practice in anything but hospital nursing, she is being sent out to do the thing she has never done—and, yet, she is a graduate nurse. On the other hand, this home-service is much valued by the community, and these student-nurses are much in demand. In addition to this home-nursing, all nurses spend four months of the last year in the city of Cambridge, there serving under competent instructors as district or visiting nurses, largely in obstetric and surgical cases, under the direct supervision of their instructors.

I have neglected to say that the obstetric ward of our hospital is proving of especial value to our citizens, as is shown by the fact that 92 babies were born there during the eleven months from June 1, 1915, to May 1, 1916, as against four for the first year, and the number is increasing each year. It is coming to be understood that such cases can be attended much more satisfactorily there than at home, with better results and with much less expense than at home.

To sum up the benefits which a hospital confers upon a country town, judging from our own experience, they are threefold: first, the excellent facilities for the medical and surgical treatment of the sick which are furnished by the hospital itself; second, the increased efficiency and skill on the part of the town's physicians as a whole, brought about by the opportunities and experience afforded by the hospital; and third, the better nursing service and care of the sick in the homes of the community, due to the training of nurses in the hospital, and also

in the homes of the sick, under the care and supervision of their teachers.

It is a common thing for our people to ask each other: "What should we do without the hospital? How could we get along without it now?" And, indeed, to go back to the old way and get along without the hospital, would be like getting along without electric cars, electric lights, the telephone, and the motor car. We simply should not know what to do or how to get along.

The country hospital has come to stay.

Concerning Hospital Charges

A Criticism

By A. D. Hard, M. D., Marshall, Minnesota

THIS is an age of hospitals. Not only the cities have them, but villages and towns of quite humble size are fast becoming supplied with private institutions where ambitious would-be surgeons are, at least, getting experience. Schools for nurses go hand in hand with hospitals, and classes of two or three socalled trained nurses are every year diplomaed into the "30-dollar per week" crowd of sickness servers. Many of the hospitals are struggling along like inexperienced swimmers, barely able to keep the breathing-organs above the surface, while some are reaping a harvest from their unfortunate "guests" by charges so high that none but the affluent are able to pay them without great sacrifice.

Interests of the Common People Not Considered

Almost all of the city hospitals are constructed without regard to the interests of the great mass of the common people, who constitute three-fourths of the throngs in need of such service. The cost of construction often is twice as much as it really need be, and the extra money spent upon mere architectural beauty compels the management to charge an unreasonable price for service to those who form a large proportion of the sorrowful patrons.

Hospitals, as a rule, are not supposed to be conducted on the money-making basis of business-enterprises, yet, almost all city hospitals charge more per day for service than do first-class hotels. This is absolutely wrong. Food supplies, overhead expenses, hired help, and interest on the capital do not bring the operating-expenses anywhere near to that of a 3-dollar-per-day hotel; nevertheless, unfortunate people of meagre means are squeezed in their extremity to pay these prices. Of course, 14 dollars per week does not sound like 3 dollars per day; however, when the extras are included, the hospital-bill for the poorest room in the building comes very close to that amount.

I have before me a bill rendered by the Swedish Hospital, at Minneapolis (a good hospital in every way) to a girl of sixteen who was sent there for an operation. She was a working-girl whose salary was $5 per week. The room rent was not excessive, but to that was added $7.70 for use of the operating-room (30 minutes) and anesthetic while pathological examinations, medicines, and dressings brought up the total to almost 3 dollars per day.

This is an example of quite general cruel oppression of those poor folk who by circumstances are forced to avail themselves of hospital service.

One reason why these unjust charges are imposed upon those who are not able to bear them is the fact that the philanthropic contributions that largely support these hospitals are diverted to other purposes than aiding the deserving poor who are the occasion of those gifts.

A small local hospital to my knowledge received $2000 in cash by the will of a kind-hearted widow. A collection of $600 was, in addition, taken up from the merchants, and the building and grounds were turned over to the aspiring surgeon for one-third their true value — all with the understanding that such help would go to relieve the unfortunate poor of part of their burdens when misfortune forced them into the hospital. But no one has ever heard of such results. And why should we expect it?

Benevolence in these directions should be so guarded by specific conditions of the gift that the objects desired are certain to materialize.

How Money May Be Wasted

Buildings should be complete, convenient, and well equipped, but no money should be

spent on costly location, expensive ornamentation of the building or upon unusual inside finish that does not add to effectiveness. Ward-rates should be limited to one dollar per day, to be available to all who are not able to pay more without incurring an unreasonable burden of debt. There should be no extra charges for use of operating-room and other services of the order mentioned. Apprentice-nurses, recent graduates in medicine as internes and house-physicians who accept the advantages as part pay, all these aids should enable any hospital to reduce running-expenses to a point where the worthy poor can be served at a price that comes within the bounds of reason. If this result can not be achieved by these ordinary means, then it is high time that a call be sent out to the great philanthropists to establish hospitals for the common people, in place of giving their money to any hospital that cruelly oppresses the unfortunate.

As a rule, there is no flexibility in the hospital charge, as in the case of the surgeon who performs the operation. The hospital-bill *must* be paid, while the physician and surgeon can have what is left or wait indefinitely for their recompense. The grasping nature of the heartless hospital shows itself in the placards, announcing that "Two weeks' room expense must be paid in advance," which adorn the office of the usual hospital. Also, the "Bills must be paid before leaving the hospital" seems to indicate that noncompliance might mean a foreclosure on the patient's body, for cadavers are worth 30 dollars in Minnesota.

At the Rochester (Minn.) hospital, the surgeons in charge quite often not only donate their services to those in need, but they also bear the hospital expense where the case truly invites such kindness of heart.

A charge of 5 dollars per day is not excessive for many who are compelled to resort to a hospital, and are able to pay such a price without complete financial depletion; but the people of the great middle class, who do not expect free service, while unable to bear an unreasonable expense, should be able to find some proper hospital care at a price commensurate with their circumstances in life.

Let Us Have Efficiency and Economy

As a physician, one of the many who silently contribute fully one-third of life's compensation to the relief of poverty-stricken humanity—I appeal to physicians everywhere to bring to public notice the unreasonable charges exacted by our hospitals for ordinary service to ordinary people. It is all very well to see in every village or city beautiful library-buildings, paid for by Carnegie; which are built, usually, with the idea that "here's a chance for some easy money." This tendency to grasp unearned cash when opportunity offers, is manifested in many buildings erected for hospital use from public donations.

Private business concerns that are run by keen-seeing business-men often establish and operate private hospitals, for their employees, that are examples of efficiency and economy. Their overhead expenses are reduced to the minimum, yet, they give ideal service. When a public hospital for common people shall appear which is conducted on similar lines, we shall have just and reasonable service to the great mass of people in moderate circumstances who can pay a reasonable price, but who are unable to stand the exorbitant charges now regularly charged by the average hospital for services that should be offered for half the customary rates.

This robbery of the defenceless poor is as heartless as it is unjust. The victim, under the compulsion of unfortunate circumstances over which he has no control, is forced to go to the hospital where his helplessness gives the bloodsucking vampires their opportunity to rob him inside the law; and with a mercy worthy of a carniverous beast they seldom lose an opportunity to "skin" him to a finish. This is the true picture of inhuman practice that distinguishes our average hospital from the institution of kindly benevolence which it should certainly be.

This is where the gifts from those sympathetic persons end up who carelessly subscribe for the erection of magnificent hospital-structures, thinking that they are offsetting their past meanness by generous deeds of love for their fellow men. This is philanthropy diverted to graft, honesty changed to thievery, generosity made over into selfish oppression. This is "man's inhumanity to man" with a vengeance excelled only in the barbarism of war; its far-reaching effects reduce the daily food, for which children are taught to pray, to a dry crust on a clothless table, the inherent right to live to the germ-infected filth of abject poverty, and the happy home to a hovel of misery.

If these conditions are permitted to continue, the boasted philanthropic and charitable character of our hospitals is bound to become a by-word and a reproach: an evil stench in the nostrils of all right-minded persons.

Who May and Who May Not Marry

By William J. Robinson, M. D., New York City

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[*Continued from page 745, September issue.*]

Hemophilia, or Bleeders' Disease

HEMOPHILIA is a peculiar disease, consisting in frequent and often uncontrollable hemorrhages. The least cut or the pulling of a tooth may cause a severe or even dangerous hemorrhage. The slightest blow, squeeze or hurt will cause ecchymoses, or discolorations of the skin. The peculiarity of this hereditary disease is, that it attacks almost exclusively the males, but is transmitted exclusively through the female members. For instance, Miss A. comes from a bleeder-family. She marries and has three boys and three girls; the three boys will be bleeders, the three girls will not; the three boys marry and have children; their children will *not* be bleeders; the three girls marry, and *their male* children will be bleeders.

What is the lesson? The lesson is, that boys who are bleeders may marry, because they will most likely not transmit the disease; but girls who come from a hemophilic family, irrespective of whether they themselves are hemophilics or not, must not marry, because most likely they will transmit the disease.

Anemia

Anemia is a poor condition of the blood. The blood may contain an insufficient number of blood-cells or an insufficient percentage of the coloring matter of the blood, that is, hemoglobin. A special kind of anemia affecting young girls is called chlorosis.

Anemia and chlorosis cannot be considered contraindications to marriage, because they are usually amenable to treatment. In fact, some cases of anemia are due to the lack of sexual intercourse, and the subjects get well very soon after marriage.

Epilepsy

While epilepsy—known commonly as fits or falling sickness—is not as hereditary, as it was one time thought to be, its hereditary character being ascertainable in only about 5 percent of cases, nevertheless, it is a decidedly dysgenic agent, and marriage with an epileptic is distinctly advised against. Where both parents are epileptics, the children are almost sure to be epileptic, and such a marriage should be prohibited by law. Under no circumstance, should parents who both are epileptic bring children into the world.

Hysteria

Hysteria is a disease the chief characteristics of which are a lack of control over one's emotions and acts, the *imitation* of the symptoms of various diseases, and an exaggerated self-consciousness. The patient may have extreme pain in the region of the head, ovaries, spine; in some parts of the skin, there is extreme hypersensitiveness (hyperesthesia), so that the least touch causes great pain; in others, there is complete anesthesia—that is, absence of sensation—so that when you stick the patient with a needle she will not feel it. A very frequent symptom is, a choking sensation, as if a ball came up the throat and stuck there (globus hystericus). Then there may be spasms, convulsions, retention of urine, paralysis, aphonia (loss of voice), blindness, and a lot more. There is hardly a functional or organic nervous disorder that hysteria may not simulate.

Of late years, our ideas about hysteria have undergone a radical change, and we now know that most, if not all, cases of hysteria are due to a repression or nonsatisfaction of the sexual instinct. Only too often a girl who was very hysterical before marriage loses her hysteria as by magic upon contracting a *satisfactory* marriage. On the other hand, a healthy girl can become quickly hysterical if she marries a man who is sexually impotent or who is disagreeable to her and incapable of satisfying her sexually.

While hysteria, in itself, is not hereditary, it, nevertheless, is a question whether a strongly hysterical woman would make a satisfactory mother. The entire family-history should be investigated. If the hysteria is found to be an isolated instance in the given girl, it may be disregarded, if not extreme; but, if the entire family or several members of it are neuropathic, the condition is a dysgenic one. Marriage may be contracted, provided no children are had until several years have elapsed and the mother's organization seems to have become more stable. In some cases, a child acts as a good

medicine against hysteria. In short, every case must be examined on its merits, and the counsel of a good psychologist may prove useful.

Alcoholism

A good deal depends upon what we understand by alcoholism. The fanatics consider a person an alcoholic who drinks a glass of beer or wine with the meals. This is non sense. This is not alcoholism, and cannot be considered a dysgenic factor. But, where there is a distinct habit, so that the individual *must* have his alcohol daily, or if he goes on an occasional drunken "spree," marriage must be advised against. And where the man (or woman) is what we call a real drunkard, marriage not only should be advised against, but most decidedly should be prohibited by law.

Alcoholism, as a habit, is one of the worst dysgenic factors to reckon with. First, the offspring is liable to be affected; which is sufficient, in itself, to condemn marriage with an alcoholic. Second, the earning-power of an alcoholic is generally reduced, and is likely to diminish further. Third, an alcoholic is irritable, quarrelsome, and is liable to do bodily injury to his wife. Fourth, an alcoholic often develops sexual weakness or complete sexual impotence. Fifth, alcoholics are likely to develop extreme jealousy, which may become pathological, even to the extent of a psychosis.

If both partners are alcoholics, then marriage between them, resulting in children, not merely is a sin, but a crime.

Feeblemindedness

Feeble-mindedness, in all its gradations—including idiocy, imbecility, moronism, and so on, is strongly hereditary and is one of the most dysgenic factors we have to deal with. Marriage with a feeble-minded person not only should be advised against, but should be prohibited by law. A feeble-minded man has much fewer chances for marriage than has a feeble-minded woman. Feeble-minded girls, even to the extent of being morons, if pretty (as they often are) have very good chances of getting married; not infrequently getting for husbands young men of good families, who themselves, of course, are not very strong mentally, but still far from being considered feeble-minded.

As any instruction in the use of contraceptives would be wasted on the feeble-minded, the only way to guard the race against pollution with feeble-minded stock is, either to segregate or to sterilize them. Society could have no objection against the feeble-minded marrying or indulging in sexual relations, provided it could be assured that they will not bring any feeble-minded stock into the world. After the man and the woman have been sterilized, there is no objection to their having sexual relations.

Insanity

Insanity may be defined briefly as a disease of the mind. We will not here go into a discussion as to what constitutes real insanity, as to what is understood by insanity in the legal sense of the term, and so on, except to note that we have two divisions.

One is, functional insanity. This may be temporary, or periodical, and is due to some external cause, is curable, and is not hereditary. For instance, a person may get insane from a severe shock, from trouble, from anxiety, from a serious accident (such as a shipwreck), from a sudden and total loss of one's fortune. Such insanities are curable and are not transmissible. Another example is what is known as puerperal insanity. Some women during childbirth become insane, due probably to some toxic infection. This insanity may be extreme and maniacal in character. Still, it often passes away in a few days without leaving any trace and may never return again, or, if it does return, it may return only during another childbirth. This kind of insanity is not transmissible.

The second division is what we call organic insanity. This expresses itself in mania and melancholy, socalled manic-depressive insanity. This is due to a degeneration of the brain- and nerve-tissue and is hereditary.

But, our entire conception as to the hereditary transmissibility of insanity has undergone a radical change. There is hardly another disease the fear of whose hereditary character is responsible for so much anguish. In former years, when there was an insane uncle or aunt or grandparent, that fact weighed like a veritable incubus on the entire family. Every member of the family was tortured by the secret anguish that maybe he or she would be next to be affected by this most horrible of all diseases—disease of the mind. If an ancestral member of the family became insane at a certain age, every member of that family was living in fear and trembling until several years had passed *after* that critical age, and only then would they begin to breathe freely. Indeed, many people become insane from the very fear of becoming insane. It cannot be subject to any doubt

that many people do become mentally unbalanced from the fear that they will become unbalanced. Fear has a tremendous influence on the purely bodily functions, but its influence on the mental functions is incomparably greater; and a person will often get that which he fears he is going to get.

Now the hereditary character of insanity is not taken in the same absolute sense in which it was formerly. While we still consider it a dysgenic factor, yet, we recognize the paramount importance of environment; and we know that by proper bringing-up, using the expression bringing-up in its broadest sense—including a proper mental and physical discipline—any hereditary taint can be counteracted. In connection with this subject, the following statistics will prove of interest.

The families of 558 insane persons cared for in the London county asylums were investigated, and, according to reports received from the educational authorities, only 15 of these (less than 3 percent) had mentally defective children. As to the time of the birth of the children, whether before or after the attack of the insanity, we find the following figures: 56 out of 573 parents had children after their first attack of insanity, and 106 children were born after the onset of insanity in the parent; while the remaining 1259 children were born before the parent became insane.

Altogether, as will be seen from a discussion of the various factors rendering marriage permissible or nonpermissible, we consider environment a much more important factor than heredity. The purely physical characteristics bear the indelible impress of heredity. But the moral and cultural characteristics, which in the modern civilized man are much more important than the physical, are almost exclusively the results of environment.

Neurosis — Neurasthenia — Psychasthenia Neuropathy — Psychopathy

I will not attempt either exhaustive or concise definitions of the terms named in the caption, for the simple reason that it is impossible to give satisfactory definitions of them. The conditions which these terms designate do not constitute definite disease-entities, and many different things are understood by different people when these terms are mentioned. Only brief indications of the meaning will be given.

Neurosis is a functional disease of the nervous system.

Neurasthenia is a condition of nervous exhaustion, brought about by various causes, such as overwork, worry, fright, sexual excesses, and so on. The basis of neurasthenia however, is often or even usually a hereditary taint, a nervous weakness inherited from the parents.

Psychasthenia is a neurosis or psychoneurosis similar to neurasthenia, characterized by an exhaustion of the nervous system, also by weakness of the will, overscrupulousness, fear, and a feeling of unreality of things.

Neuropathy is a disease or disorder of the nervous system. Psychopathy is a disease or disorder of the mind.

Of late years, we often hear people referred to as neurotics, neurasthenics, psychasthenics, neuropaths or psychopaths. These are undoubtedly abnormal conditions, and, taken as a general thing, they are dysgenic factors. Now, a dysgenic factor in an animal *is* a dysgenic factor, and that is all there is to it. There are no two sides to the question. However, if anything goes to show the difference between animals and human beings, and to demonstrate why principles of eugenics, as derived from a study of animals, can never be *fully* applicable to human beings, it is these considerations which we now have under discussion.

To repeat, neurosis, neurasthenia, psychasthenia, and the various forms of neuropathy and psychopathy are dysgenic factors. But, people suffering from these conditions often are among the world's greatest geniuses, have done some of the world's greatest work, and, if we prevented or discouraged marriage among people who are somewhat "abnormal" or "queer," we should deprive the world of some of its greatest men and women. For, insanity is allied to genius; and, if we were to exterminate all mentally or nervously abnormal people, we should at the same time exterminate some of the men and women that have made life worth living.

And what is true of mentally abnormal is also true of physically inferior people. An inferior horse or dog *is* inferior. There is no compensation for the inferiority. But a man may be physically inferior, he may be, for instance, a consumptive, but still he may have given to the world some of the sweetest and most wonderful poems. A man may be a hunchback and a cripple and altogether physically repulsive, and, yet, he may be one of the world's greatest philosophers or mathematicians. A man may be sexually impotent and absolutely useless for race purposes, yet,

may be one of the greatest singers or the greatest discoverers.

In short, the eugenic problem in the human is not, and never will be, as simple as it is in the animal and vegetable kingdoms. If we want to strive after healthy, normal mediocrity, then the principles of animal-eugenics become applicable to the human race. If, on the other hand, we want talent, if we want genius, if we want benefactors of the whole race, then we must go very slow with our eugenic applications.

Drug Addiction, or Narcotism

Addiction to drugs, whether it be opium, morphine, heroin, cocaine or alcohol, is a strongly dysgenic factor. The addiction to any drug is, of itself, not transmissible; but the weakened constitution, or degeneracy, which is generally responsible for the development of the drug addiction is inheritable.

A few cases of drug-addiction are "external"; that is to say, the patient may have a good, healthy constitution, no hereditary taint, yet, because during some sickness he was given morphine rather indiscriminately, he developed an addiction to the drug. But those cases are rare. And such persons may marry, if they are cured and if the addiction is completely overcome.

But, in most cases, *it isn't the drug-addiction that causes the degeneracy, it is the degeneracy, or the neuropathic or psychopathic constitution, that causes the drug-addiction.* Such cases are bad matrimonial risks; and it is a very hazardous undertaking for a woman to marry an addict with the idea of reforming him. Let him reform first, let him stay reformed for a few years, and then the risk is not so great.

Consanguinous Marriages

Consanguinity means blood-relationship, and consanguinous marriages are marriages between near blood-relatives. The physician is frequently consulted as to the permissibility or danger of marriages between near relations. The question generally concerns first cousins, second cousins, uncle and niece, and nephew and aunt.

The popular idea is, that consanguinous marriages are bad *per se*, that the children of near relatives, such as first cousins, are likely to be defective, deaf and dumb, blind, or feebleminded. This popular idea, as so many popular ideas are, is wrong. And, still, there is, of course, as there always is, some foundation for it. The matter, however, is quite simple.

We know that many traits, good and bad, are transmitted by heredity. And, naturally when traits are possessed both by father and mother, they stand a much greater chance of being transmitted to the offspring than if possessed by one of the parents alone. Now, then, if a certain bad trait, such as epilepsy or insanity, is present in a family, that trait is present in both cousins; and the likelihood of children from such a marriage inheriting that trait is much greater than when the parents are strangers, the taint being present in the family of only one of the parents. But, if there be no hereditary taint in the cousins' family, or, still more, if the family is a healthy and talented one, if there are geniuses in the family, then there cannot be the slightest objection to marriage between cousins, and the children of such marriage are quite likely to inherit in a strong degree the talents or the genius of their ancestors. In short, if the family is a bad one, one below par, then marriage between cousins or between uncle and niece should be forbidden. If the family is a good one, above par, then marriage between relatives of that family should be encouraged.

The idea that the children from consanguinous marriages are likely to be deaf and dumb has no foundation in fact. The statistics from various asylums, in Germany, for instance, have shown that only about 5 per cent of the deaf and dumb children were the offspring of consanguinous marriages. If 95 percent of the deaf and dumb had nonconsanguinous parents, how could one say that even in the other five percent the consanguinity was the cause? If it were the other way around, then, of course, we could blame consanguinity. As it is, we can assume even in this 5 percent a mere coincidence, and we have no right to say that the consanguinity and the deafness and dumbness stand in relation to each other as cause and effect.

It is interesting to know that among the Egyptians, Persians, and Incas of Peru close consanguinous marriages were very common. The Egyptian kings generally married their sisters. This was common custom, and, if the children born of such unions had been defectives or monstrosities, the fact would have become quickly apparent and the practice would have been abolished. Evidently the offspring of very close consanguinity was normal or even above the normal, or the practice would not have been continued for such a long time.

It is perhaps worth while noting that one of the world's greatest scientists, Charles

Darwin, was the child of parents who were first cousins.

Homosexuality

Homosexuality (*homos* — the same) is a perversion, in which a person is attracted, not to persons of the opposite, but to persons of the same sex. Thus, a homosexual man does not care for women, but is attracted to men. A homosexual woman is not attracted to men; she is attracted only to women, and may even loathe men.

A homosexual, man or woman, has no right to marry. The wrong committed by a homosexual marrying is a double one: it is wrong to the mate, wrong to the children. The normal partner is bound to discover the abnormality, and, if he (or she) does, then the married life is a very unhappy one. Even if the abnormal partner exerts the utmost efforts to conceal the abnormality he cannot afford any pleasure to the normal partner, because the sexual act committed under loathing cannot be satisfactory. The second wrong is committed on the offspring. Homosexuality is hereditary, and nobody has a right to bring homosexuals into the world, for there is no unhappier being than a homosexual.

I know a homosexual woman, who, though knowing her abnormality, married for the sake of a comfortable home. She has been successful in hiding from her husband her abnormality, he simply considering her frigid. But each sexual act costs her tortures. So far she has succeeded in avoiding pregnancy. I also know a highly refined and educated homosexual gentleman, who married before understanding his condition. Many homosexuals, not knowing that such a thing as homosexuality exists, do not understand their own condition; they feel a little strange, a little puzzled, but they don't know that they ought not to marry. Soon after marrying this man's condition became clear to him, but in the meantime his wife conceived and he is now the father of a healthy, good-looking boy. It is possible that with proper bringing up the development of any homosexual traits will be prevented.

But, to emphasize: homosexuality is a dysgenic factor, and no homosexual should marry.

Sadism and Masochism

Sadism is a sexual perversion in which the person derives sexual pleasure only by inflicting pain on the person of the opposite sex, as, for example, by beating, biting, striking or other, even more cruel acts. The degree of cruelty varies, but all sadists should be shunned. Unfortunately, the fact that a man is a sadist often is not discovered until after marriage; however, as soon as the wife has found it out she should leave the man and demand a divorce. Sadism is a sufficient ground for separation or divorce. No person with any moral feeling in him or her should be responsible for bringing children into the world with the possible danger of sadistic heredity.

Masochism is a sexual perversion in which the person *likes* to suffer pain at the hands of the beloved object. It is the opposite of sadism. It is a dysgenic factor, but much less important than sadism.

Sexual Impotence

Sexual impotence is not hereditary, but impotence in the male, either so complete that he cannot perform the act or consisting only in premature ejaculations, should constitute a bar to marriage. This impotence may not interfere with impregnation; the wife may have children and the children will not be in any way defective, but the wife herself, unless she is completely frigid, will suffer the tortures of hell and may quickly become a sexual neurasthenic, a nervous wreck, or she may even develop a psychosis.

Any man suffering from impotence should, before getting married, have himself treated until he is cured; if his impotence is incurable; then, for his own sake and for the sake of the girl or woman, he should give up the idea of marrying. The only permissible exception is in cases in which the prospective wife knows the nature of her prospective husband's trouble and declares that she does not care for "gross" sexual relations and, therefore, does not mind the man's impotence. In case the wife is absolutely frigid, the marriage may turn out satisfactory. But, I should always have my misgivings; for should the wife's apparently absent but in reality only dormant libido suddenly awaken, there would be trouble both for husband and wife. It is, therefore, necessary to emphasize: in all cases of impotence—caution!

Frigidity

Frigidity is a term applied to lack of sexual desire or sexual enjoyment in women. Of course, before marriage many women are themselves ignorant of their sexual condition. Having learned to restrain their impulses, to repress any sexual stir, they themselves are often unable to say whether they have a

strong or a weak libido, or any at all. So, whether or not such a woman would derive any pleasure from the sexual act can be found out only after marriage is consummated. Many girls, however, know very well whether they are "passionate" or not, but they will not tell. They are afraid to confess to a complete lack of passion—they fear they might not gain a husband.

Frigidity as a factor in marriage may be considered from two points of view: the offspring and the husband. The offspring is not affected by the mother's frigidity. A very frigid woman, if the frigidity is not due to serious organic causes, may have very healthy children, and she may make an excellent mother. So far as the husband is concerned, a good deal will depend on the degree of the wife's frigidity.

If the woman is merely cold and herself not enjoying the act, but raises no objection to its performance, her frigidity cannot be considered a bar to marriage. As a matter of fact, many men who themselves are not overstrong sexually are praying for somewhat frigid wives. (It must be stated, however, that to some husbands sexual relations with a frigid and nonparticipating wife are extremely distasteful). When, however, the frigidity of the wife is of such a degree that it amounts to a strong physical aversion to the act, that should be considered a bar to marriage. Such frigidity is often the cause of a disrupted home, often leads to divorce, and is considered a sufficient cause for divorce or for the annulment of marriage.

Astigmatism

Astigmatism is a defect of the eye based upon some irregularity of the cornea or the lens, in which light-rays in different meridians are not brought to the same focus. This abnormality is to a certain extent, hereditary, but plays an insignificant role in the problem under consideration. It is an undesirable trait, but can not be considered a dysgenic factor.

Myopia

Myopia means nearsightedness. This defect undoubtedly is hereditary to a certain degree; but it is doubtful, other conditions being favorable, that any man would give up a girl (or *vice versa*) because she (he) is myopic, Still, if the condition is extreme, as it sometimes is, it should be taken into consideration. And, where both the man and the woman are strongly myopic, some hesitation should be felt in contracting a marriage. If the husband alone is myopic, then the defect may be transmitted to the sons, but not to the daughters, these daughters, though, in their turn may transmit the defect to their sons but not to their daughters. In other words, the defect is more or less sex-limited.

Harelip

Harelip is a congenital defect, consisting in a notch or split in the upper lip. It is due to defective development of the embryo and, as a rule, is found in association with cleft palate. This abnormality probably is hereditary, but is not common and is not of much importance.

Criminality

Almost a complete change has taken place in our ideas regarding criminality, there being now but very few criminologists who believe in the Lombrosian nonsense of most criminality being inherited and being accompanied by physical stigmata of degeneration. The idea that the criminal is born, and not made, is now held by only an insignificant number of thinkers. We know now that by far the greatest percentage of crime is the result of environment, of poverty, with all that this implies, of bad bringing up, of bad companions. We know that the child of the criminal, properly brought up, will develop into a model citizen, and, *vice versa*, the child of the saint, brought into the slums, might develop into a criminal.

Then we must remember that there are many crimes that are not crimes, in themselves, but which are merely infractions of men-made laws, or represent rebellious acts against an unjust and cruel social order. Thus, for instance, a man or a woman who, defying the law, would give information about birth control and be convicted for the offense, would be "legally," a criminal. Morally, he or she would be a high-minded humanitarian. A man who would throw a bomb at the Russian czar or at a murderous pogrom-inciting Russian governor would be considered an assassin and, if caught, would be hanged. In making up the pedigree of such a family, a narrow-minded eugenist most likely would say that there was criminality in that family. But, as a matter of fact, that "assassin" may have belonged to the noblest-minded heroes in history.

The thinking eugenist, therefore, will pay little attention to criminality in the ancestry as a dysgenic factor. So long as the matrimonial candidate himself is not a criminal, the ancestral criminality should constitute no

bar to marriage. It is not likely to show itself atavistically in the children. Altogether, a good deal of nonsense has been written about atavism. Furthermore, people forget that the same rules of heredity that are applied to physical conditions cannot be applied to spiritual and moral qualities, the latter being much more dependent upon environment than are the former.

Pauperism

It may seem strange to discuss pauperism in relation to marriage, and to speak of it as a hereditary factor, but, it is necessary to discuss it, because considerable ignorance prevails on the subject, it being generally confused with poverty. There is a radical difference between pauperism and poverty. People may be poor for generations and generations – very poor and, still, not be considered or classed with paupers.

Pauperism, generally, implies a lack of physical and mental stamina, loss of self-respect, and unconquerable laziness. Of course, we know now that laziness generally rests upon a physical basis. But, whatever the cause of the laziness may be, the fact is, that it is one of the characteristics of the pauper. And, while we cannot speak of pauperism being hereditary, the *qualities that go to make up the pauper* are transmissible.

No normal woman would marry a pauper; and the woman who would marry a pauper is not amenable to any advice or to any book-knowledge. However, men sometimes are tempted to marry daughters of paupers if they happen to be pretty. They should consider the matter very carefully, for some of the ancestral traits may become manifest in the children.

Race

Nobody, I am sure, will accuse me of any racial prejudice—if I am ever accused of anything, it is of being too liberal. So, if I thought that marriages between different races were beneficial to humanity as a whole, I should not hesitate to say so. However, marriages between different races—for example, between the white amd the black—are decidedly dysgenic, and such commixture of blood is injurious to each of the two races. The offspring from such miscegenation seem to inherit all the defects and none of the virtues of the original races. On this point, I am inclined to agree with Agassiz, who said:

"Let anyone who doubts the evil of the mixture of races and who is inclined, from mistaken philanthropy, to break down all barriers between them come to Brazil. He can not deny the deterioration consequent upon the amalgamation of races, more widespread here than in any other country in the world, and which is rapidly effacing the best qualities of the white man, the Indian, and the negro, leaving a mongrel, nondescript type, deficient in physical and mental energy."

While marriages between members of different nations of the same race generally are beneficial and produce superior offspring, interracial marriages are decidedly dysgenic and not only should be frowned upon, but should be prohibited by the state.

Age

Great disparity between the ages of the wife and the husband is generally considered prejudicial. We may accept the general opinion, but it is necessary to bear in mind that each case is to be decided upon its merits. Many marriages in which the husband is twenty or thirty years older than the wife, and many marriages in which the wife is ten years older than the husband, have turned out to be very happy unions, so far as the relations between husbands and wives as well as the welfare of the offspring were concerned.

It is considered the proper thing for the husband to be five or ten years older than the wife. To this proposition, I can give only a halfhearted acceptance. For, it happens only too often that at the time the man begins to lose his potency the wife's sexual instinct just becomes fully awakened, and under those circumstances it is a bad thing for the husband to be older than the wife. On the other hand, as mentioned before, we know of many instances in which the wife was considerably older than the husband and which turned out happily.

I will, therefore, say that, so far as relative age is concerned, I would not formulate any ironclad or even definite rules. Each case must be decided upon its individual merits.

A man of sixty, for instance, fully preserved, in the full possession of his physical and sexual power, would make a better husband and better father than a man of forty or forty-five who is run down and sexually impotent or even merely sexually weak.

The statement that the children of aged parents are likely to be feeble also lacks scientific foundation. I know of many instances where the fathers were between fifty and sixty-six and, yet, their children were physically remarkably strong.

On the contrary, I believe that just the

opposite is liable to be true. A man who after the age of sixty is ambitious to become a father generally is of physical and sexual strength above the ordinary and is likely to transmit his qualities to his offspring.

Therefore, we repeat that, so far as the ages of husband and wife are concerned, each case must be decided on its individual merits. For, if it is true that a man is as old as his arteries, there is no question about it that many men of sixty are younger than some men of forty

Vaccine- and Serum-Therapy in Everyday Practice

VIII. Diseases of Bones and Joints

By W. C. Wolverton, M. D., Linton, North Dakota

[*Continued from August issue, page 606.*]

Acute Infections of Osseous Structures

EXCEPT in compound fractures, infection of bony structures occurs (acute osteomyelitis, osteitis, periosteitis) from within, through the blood stream. Those persons, therefore, who have some infection of the blood stream, such as furunculosis, typhoid fever, tuberculosis, syphilis, and the like, are specially predisposed to metastatic infections of the kind we are now about to consider. Some slight injury or exposure may then act as the exciting cause, by bringing about a local condition of lowered resistance.

Experience with Osteomyelitis

Thus, a boy once fell into the pit of a grain elevator and struck his shin. No bones were broken. When, however, swelling and pain appeared, the doctor concluded that there was a fracture and applied a plaster cast, with the disastrous consequence that almost the entire shaft of the tibia was destroyed by the ensuing osteomyelitis. At another time, a boy suffering from furunculosis went wading in a creek early in the spring, when the water still was very cold. Within a few hours, he was seized with a chill, severe pain in the leg, and osteomyelitis developed; and from this he suffered for forty long years, the tibia being riddled with sinuses. A cure was finally effected by the removal of the greater part of the tibia.

It is plain that we cannot be too careful in diagnosing these grave conditions or too prompt in applying proper treatment, if we are to avoid disastrous results.

Some years ago, I was called to see a Russian boy who had considerable swelling and redness about and *just above* the ankle-joint. The father and uncle of the boy had each recently recovered from an attack of acute rheumatic arthritis, preceded by tonsillitis; so, being impressed by the highly infectious nature of these conditions and the close connection subsisting between infections of the throat and joint-structures, I concluded that the boy had an arthritis of "rheumatic" character. But, treatment with streptococcus-bacterin and acetylsalicylic acid failed to bring about any improvement. After a few days, the swelling and redness extended somewhat higher up the leg, and the swelling took on that "boggy" or "doughy" feel which presages the presence of pus beneath. Then I realized that I had an osteomyelitis to deal with. It was with difficulty that I secured the consent of the father for opening the leg and chiseling a hole into the medullary canal of the tibia. Thus it was that I failed to remove enough bone; and, as a consequence, a discharging sinus persisted, even under continued bacterin-treatment, until a free incision was made and all necrotic bone thoroughly removed.

In acute osteomyelitis, the *general*, or *systemic*, symptoms may overshadow the *local* manifestations of the disease, with the result that this grave condition at times has been mistaken for typhoid fever, pneumonia or meningitis; and death may even take place within a day or two from the extreme toxemia. In most cases, however, the affected extremity becomes painful, helpless, and swollen; redness may not be evident, at first; tenderness is extreme, extending throughout the shaft of the affected bone, but most intense at one spot, so that palpation may be impossible. This disease is mistaken most often for acute rheumatic arthritis. However, in acute osteomyelitis, the joints are not involved, while the

bones are; and multiple lesions, so common in acute rheumatic fever, are rare so early in the course of osteomyelitis, though quite frequent later. A little later, the "boggy," edematous skin, together with redness and even fluctuation, make a mistaken diagnosis unpardonable.

Here, as elsewhere, I wish to impress the fact that bacterin-therapy is no "cure-all."

Once the medullary canal of the affected bone has been *adequately* opened, bacterin-therapy will surely shorten the drainage period and limit the amount of necrosis. When the diagnosis has been made, no time should be lost in affording exit for the pus. If a chisel is not at hand, free incision should be performed and one or more holes bored through the bone—by means of a sterile gimlet, if no better instrument is available. The main requisite is, that immediate exit be afforded the pus, which *at first* is confined to the medullary canal. Then follow with the bacterin (remembering that this is an exceedingly acute and toxic condition), making the initial dose correspondingly small, and repeating the bacterin, cautiously increased in amount, in twenty-four to forty-eight hours, as conditions warrant.

Two years ago, I followed out the plan of treatment outlined, in the case of a little German-Russian girl, with the most gratifying results. The child had complained of pain just below the knee for about a week, but the parents (farmers) did not call a physician until the presence of pus was evident even to themselves. When I was called, I discovered that the bone was infected through and through. Under anesthesia, I evacuated nearly a pint of pus, which had collected between the outer surface of the tibia and the extensor muscles of the leg. The next day, I had the little patient removed to my hospital, where I chiseled a hole about an inch in diameter into the shaft of the tibia, at a point where the infection seemed to centralize. The medullary canal was then thoroughly, but cautiously, cleaned out in either direction by means of a curette. The wound was left wide open, to afford free drainage, and bacterin-treatment was instituted. The wound was kept loosely packed with strips of iodoform gauze, and in a very short time discharge had ceased and the wound healed up from the bottom. There has been absolutely no trouble since then, even though the condition was a very bad one when treatment was begun.

In another case, in a 50-year-old diabetic, who came under my care a few months ago, the x-ray showed a decided periostitis of the right radius, at about the middle of the shaft. Without the radiogram, this trouble would, doubtless, have been designated and treated as "rheumatism." Three doses of bacterin, in conjunction with salicylates and calomel, effected a speedy cure.

Chronic Infections of Osseous Structures

In a large proportion of the chronic infections of osseous structures, the tubercle bacillus is the primary infective agent, and treatment must be directed at the underlying condition; the use of bacterins alone will not effect a cure. Especially is this true when sequestra of necrotic bone are present. Bacterin-therapy will not cause the liquefaction and absorption of dead bone, so, the latter must be removed most thoroughly by surgical procedure. Localized collections of pus must be afforded free exit. Then an adequate determination of blood and lymph to the affected part must be secured by measures heretofore described in detail.

As regards the bacterin-treatment in these chronic conditions, it is extremely important that we know the exact nature of the organisms, both primary and secondary, with which we have to deal. In other words, whenever possible, we should, determine, the varieties of pathogenic microorganisms concerned by means of a bacteriological examination of the discharge. In many cases, the use of an autogenous bacterin may prove to be necessary.

As to tuberculin treatment, Allen recommends the use of the "bacillen-emulsion" in this particular class of cases, and further remarks that this may, advantageously, be a mixture of equal parts of those derived from the human and the bovine types of the bacillus. The initial dose recommended by Allen as safe is 0.00001 mil (Cc.). This dose is to be increased very cautiously—always avoiding a marked reaction—at intervals of not less than ten days. The treatment may have to be quite prolonged. Relapses are frequent.

The medicinal, hygienic, and dietetic treatment of these cases is, in general, the same as that heretofore recommended for other chronic and tuberculous conditions.

Acute Arthritis

Acute arthritis may be caused by any one of quite a wide variety of microorganisms, among which the following occur most frequently: staphylococci, streptococcus pyoge-

nes, streptococcus rheumaticus, streptococcus viridans, pneumococcus, gonococcus, bacillus typhosus, colon-bacillus, bacillus pyocyaneus.

In general, these organisms gain entrance to the joint via the blood stream. However, in surgical treatment of joint affections involving the opening of the joint-cavities, infection is very prone to occur, unless extreme precautions are observed to maintain strict asepsis. Occasionally joint infection takes place as the result of a punctured wound. It is needless to mention that in exploratory puncture or aspiration of a joint one cannot be too careful to secure perfect asepsis.

With the exception of the "rheumatic group" and the typhoid-bacillus, infection of the joint by any of the bacteria named is followed almost invariably by pus formation. Naturally, then, but little can be hoped for from bacterin-treatment, in these cases, unless proper surgical measures precede the administration of the bacterins. Microscopic examination of some of the pus obtained by aspiration will usually reveal the nature of the offending germ and, so, point the way to the proper variety of bacterin to be employed.

In many cases, free incision and drainage is inadvisable and unnecessary, and may lead to a greater or less degree of ankylosis. It is well first to try aspiration of the pus, followed by the injection of "Murphy's fluid" (a 2-percent solution of formalin in glycerin). The articular surfaces are then kept separated, and thus adhesions prevented, by the application of a Buck's extension or a suitable modification of it. If the joint-cavity should again fill with pus, it is again aspirated and more of the formalinized glycerin injected. This procedure is repeated until the exudate becomes sterile and serous.

In all these cases of purulent arthritis in which it is evident that infection has not taken place directly from without, the primary focus of infection is to be sought for, and appropriate measures directed toward its eradication, if possible. A focus of Neisserian infection in the seminal vesicles, epididymis or prostate gland demands proper treatment. Ofttimes a simple "cold," due to the pneumococcus, may have a sequel in an arthritis. Tonsillitis is notorious for causing metastatic infections of joint-structures, especially arthritides of a "rheumatic" nature. Pyorrhea alveolodentalis is also responsible for a considerable share of cases of arthritis, especially those of the chronic varieties. All these primary foci of infection demand proper treatment, if lasting benefit is to be secured from bacterin therapy.

Joint Tuberculosis

According to Dr. John B. Murphy, all cases of tuberculosis of joints begin *outside* the joint, and only later break into it. Consequently, the treatment should be largely prophylactic. Unfortunately, however, we usually see these cases only after irreparable injury to the joint has taken place. Concerning the treatment of the tuberculous cases, I can only refer the reader to what has been said in this essay with regard to the treatment of tuberculous osteomyelitis. But these cases come more properly under the head of orthopedic surgery.

In nontuberculous arthritis, small doses of bacterin are to be given at short intervals—of, say, one to three days—cautiously increasing the size of the dose, as clinical symptoms may dictate.

In gonorrheal arthritis, much larger doses of bacterin are necessary than those which have usually been employed. From 200 million to a billion killed gonococci form the proper dose. The interval between doses should be from two to four days in acute cases and from four to eight days in chronic ones. Ofttimes, in chronic cases, old ankyloses will require breaking up by forcible flexion and extension, under an anesthetic, and the use of an extension-apparatus. At the same time, a diligent search must be made for the primary focus—in the urethral crypts and sinuses, the epididymis, seminal vesicles, and prostate gland. Unless these foci of infection are gotten rid of, continual reinfection takes place and bacterin-treatment counts for naught.

In general, a differential diagnosis may be made between acute gonorrheal arthritis and acute rheumatic polyarthritis by the fact that the former, as a rule, attacks but one joint at a time, whereas the latter disease usually involves several joints simultaneously or in rapid succession. In doubtful cases, I should apply the "therapeutic test," by administering a dose of a proper "rheumatism-vaccine." If, after repeating this bacterin—in gradually increasing dosage—no favorable clinical results follow, resort might then be had to a serum test, such as the "complement-fixation test," specific for infections by the gonococcus.

Acute Rheumatic Polyarthritis

Acute rheumatic polyarthritis (acute rheumatic fever; inflammatory rheumatism) is

a condition in the treatment of which I am always very much interested, as it was in a case of acute rheumatic arthritis that I administered my first dose of a combined streptococcus- and pneumococcus-bacterin, nearly six years ago.

The patient, a farmer of about thirty years, had been the victim of several prior attacks, with the result that he had a badly leaking mitral valve when I was called to attend him on the eighth day of the attack. He was lying helpless in bed, both ankles, knees, one wrist, and an elbow being affected. To make matters worse, the man was coughing and suffering from dyspnea, and pneumonia loomed large upon the horizon as a possible complication. When I was called I was told (over the telephone) that the man was paralyzed. So, I had a very limited stock of remedies with me when I arrived at his home, out in the country.

Getting Interested in Bacterin-Therapy

I happened to have with me at the time two ampules of a combined streptococcus pyogenes and pneumococcus-bacterin, which I had received a few days before, as a sample. It seemed to me that here was an unusually fine opportunity to "try out" this (to me) new therapeutic weapon. I, therefore, administered the contents of one ampule. I also left a small supply of aspirin tablets, and administered a dose of calomel. The patient vomited shortly after taking the first dose of aspirin, so, took no more. Consequently, whatever followed must be ascribed entirely to the action of the bacterin.

About twenty-four hours after the administration of the bacterin, I made my second visit, and was surprised to find that moving about in bed caused the man but very little pain, and he could flex his joints to quite an extent. He stated that the pain was noticeably relieved within about four hours after the bacterin was injected. In forty-eight hours after receiving the bacterin, he was able to sit up in a chair. Five days from the date of my first visit, he drove to town and came to my office. I then injected a second dose of bacterin, to prevent, if possible, any return of the trouble.

Since that time this man was entirely free from rheumatic attacks until about a year ago, when he had a light attack affecting his shoulder. One dose of bacterin was sufficient to cure this attack, also.

This man, when I first attended him, was drinking heavily; he had a bad heart; he was in the eighth day of the attack when I first saw him, and no treatment had been applied, save "old women's remedies"; also, he was on the verge of a pneumonia. A more unfavorable combination of circumstances could hardly be imagined; yet, the bacterin gave most brilliant results.

It so happened that a number of such cases came under my care within the next few months, and in none of them did the bacterin fail to do the work. Since that time, I have used bacterins in a large number of cases of this stubborn and dangerous malady. In cases in which endocarditis had not already developed, I have never seen this lamentable complication to occur. This alone is worth while, as every reader knows in how large a percentage of cases of acute rheumatic arthritis endocarditis is a complication, and with an irremediably crippled heart as the result when the conventional treatment with salicylates is relied upon.

An Interesting Case

Out of the many cases of this disease which I have treated during the past six years, one appeals to me as being of special interest. A daughter of my first "bacterin-patient" suffered frequent attacks of acute follicular tonsillitis and nearly every attack of tonsillitis would be followed by a corresponding arthritis, affecting both ankles and sometimes a knee. Finally, the condition was become chronic and the ankles became so weak that I had to have a pair of braces made to support the joints. I kept telling the parents that the rheumatic attacks were due entirely to the diseased tonsils (the result of a severe attack of diphtheria, in the first place), but they could not understand how a disease of the throat could possibly have any connection with trouble at the opposite extremity of the body. At last, when my patience was about exhausted, I prevailed upon them to allow me to enucleate the girl's tonsils. Since then, the rheumatic attacks have entirely ceased and she has been perfectly well for a year. The ankles soon became strong and able to support the weight of the body without the help of braces.

One must always look for some primary focus of infection in these rheumatic cases; and usually it will be found in the tonsils, tooth-sockets or the accessory nasal sinuses. Until these primary foci are effectively cleaned, satisfactory results from bacterin-treatment cannot reasonably be expected.

In the treatment of these acute cases, I at first employed a straight streptococcus-

pyogenes-bacterin (polyvalent, stock); but, since becoming familiar with the work of Rosenow upon the mutations which take place in the streptococci as the result of variations in environment, culture-media, and so on, I now use a bacterin containing various strains of staphylococci, the pneumococcus, and the different varieties of streptococci (streptococcus pyogenes, streptococcus rheumaticus, streptococcus viridans, etc.). It is extremely unlikely that any one variety of microorganism is responsible for every case of acute rheumatic arthritis; hence, the combined bacterin.

A good initial adult dose in these cases would be: staphylococcus aureus, 50 millions; pneumococcus, 25 to 30 millions; streptococci, 30 millions of each variety present in the bacterin. The interval between doses should be from twenty-four to forty-eight hours, until improvement is manifest; then at longer intervals—of three to seven days—until the condition has entirely cleared up. It is also well to employ large prophylactic doses at monthly intervals, until one is certain that recurrence will not take place.

Value of Bacterins for Diagnostic Purposes

In concluding the consideration of acute rheumatic arthritis, I wish again to lay especial stress upon the necessity of using great care in making a differential diagnosis between this condition and acute osteomyelitis. The differential points have been detailed when we were considering the latter disease, so, they will not again be gone into at this time. But one must be ever on his guard, or the consequences may prove disastrous.

The bacterins may be put to another important use in this class of cases, namely, the making of a "therapeutic test," to differentiate acute rheumatic from acute gonococcic arthritis.

In the absence of conclusive evidence of a primary focus of gonococcic infection, a *diagnostic dose* of 500 million killed gonococci may be injected into the subcutaneous tissues of some part of the body far distant from the affected joint. If within twenty-four hours there is a focal reaction, as evidenced by increased pain and tenderness in the affected joint, followed by marked improvement a little later on, this may be accepted as conclusive evidence of the specific Neisserian character of the infection. Again, if this test should prove negative, a dose of 100 million killed streptococcus rheumaticus may be administered, in the same way, and the presence or absence of focal reaction observed.

Chronic Arthritis

What has been said about chronic osteomyelitis due to the tubercle-bacillus applies equally to chronic arthritis due to the same infective agent, for the reason that the pathologic process begins outside the joint-cavity, and invades it only secondarily. These cases, also, come more properly under orthopedic surgery, as they are strictly surgical.

In *nontuberculous*, subacute, and chronic "rheumatoid" arthritis, bacteriologic cultures from the joint structures and blood stream show the presence of various types of streptococci, namely, streptococcus rheumaticus, streptococcus viridans, and other forms of this protean germ. Other bacteria that may be concerned are the staphylococci, bacillus coli, gonococcus, bacillus Friedlander, and various diphtheroid organisms. Sometimes, it would appear, the bacteria are not located in the joint-structures, but are in some primary focus in a distant organ or tissue, their toxins being carried by the blood stream to the joint, the latter representing a "place of lessened resistance."

In all these chronic cases, therefore, a strict search is to be made for a primary focus of infection; the most likely locations being the tonsils, tooth-sockets (pyorrhea), accessory sinuses, colon, kidneys, urethra, prostate gland, seminal vesicles, vagina, cervix uteri, and fallopian tubes.

Where the bacteriological diagnosis is not clear and when a combined polyvalent stock bacterin yields negative results, an autogenous bacterin will often give satisfactory results. Billings, Rosenow, and Murphy have achieved brilliant cures in cases of many years' standing, by preparing autobacterins from organisms obtained from the tonsils, pyorrheal pockets, and blood-cultures.

In one case of arthritis deformans, three injections of a combined stock bacterin yielded, in my hands, a very satisfactory improvement in the condition, as regards mobility of the joints, and relief of pain and tenderness. Unfortunately, this patient passed from under my observation, so, I have no means of knowing what the ultimate results might have been. But, the improvement was very encouraging.

Large doses of bacterin are necessary in these chronic conditions, and the intervals between inoculations should be comparatively long, say, a week to ten days.

[*To be continued.*]

Therapeutic Indications in Typhoid Fever

By A. L. Nourse, M. D., Sawyerville, Alabama

TYPHOID fever and paratyphoid fever will in this paper be considered together although the differences in severity and the bacteriological causative factors of these diseases are recognized.

The time will come when an awakened public will demand the same disease prophylaxis in civil as in military life; then typhoid fever will be a mere matter of interest to those delving into the history of medicine. Until already known and fully recognized measures of prevention, both by vaccination and hygienic precaution, are universally adopted, instead of receiving sporadic attention, to the unavoidable imperilment of entire communities, it remains the duty of the therapeutist to reduce still further the death rate of this scourge.

Many conscientious practitioners still are so skeptical in the matter of the scientific employment of internal medication that they prefer to confine themselves to prophylactic measures, hydrotherapeutic treatment, and regulation of diet; the use of other agents being confined to the control of some of the grosser manifestations. On the other hand, the enthusiastic modern internist sees in no disease a greater field for the successful applicat on of therapeutic resources than he does in typhoid fever. The modern internist believes that the sponging, or other balneologic measures, when properly employed, are absolutely indicated, since they maintain external cleanliness, reduce fever, by means of evaporation, and, in special cases, by the actual contact of the fevered body with substances of lower temperature. Great conservatism should be exercised in the use of ice and ice-water even in hyperpyrexia.

However, he goes further and insists that the "bathing" should include the entire alvine tract with antiseptic-charged liquids, and include in it everything, from the fevered lips and tongue to the principal lesions which, pathology has taught him, exist in Peyer's glands, together with the hyperplastic surrounding and continuous structures of the jejunum, ilium, and, to a variable extent, the large intestine, as well as to the terminal portion and rectum, which though not so directly involved, yet, are a part of the diseased alimentary tube.

Further, the internist realizes that the principle of treatment must be carried further, to relieve a system laboring to absorb and neutralize both the bacteria invading it and their toxic products, without allowing them to run a full life-course to that classic point of self-limitation.

This adds to the problem of maintaining intestinal asepsis (more properly, bacterial balance), that of assisting nature in its attempt toward toxin elimination, and in giving it material for repair of excess waste, while the body is unable to draw upon its normal food supply, which can not be given without its becoming mechanical detritus and a culture-medium for inimical organisms.

In typhoid fever, even more than in most disorders, we have such a variety of atypical cases—owing to the varying resisting power of the individual, either through special sources of immunity or variations in the general opsonic index—that an immense range of therapeutic indications may be presented. One indication is ever there, be the case one of a typhoid-carrier (always provided we can round him up), the ambulatory case of paratyphoid fever, the delirious sufferer from hyperpyrexia or "typhomania," or the instance where the typical fever-curve is represented by asthenic subnormal temperature and a rise to normal in the evening. This always-with-us indication is for the intestinal antiseptic above touched upon.

Destruction of Intestinal Typhoid-Bacilli

That destruction of the typhoid-bacilli within the intestinal canal is possible, can no longer be denied by anyone who will follow the results of experiments with typhoid-carriers. In visiting, or having him visit oneself, which is often the case in ambulatory types and during the prodromes, the exhibition of the intestinal remedies may be begun while the diagnosis still is tentative and long before it can be confirmed by the Widal test. And the beauty of it is, that the treatment will be a beneficial one, even if the tentative diagnosis is in error or if, as certain practitioners believe, the disease is occasionally aborted.

Following out the cardinal principle of cleaning up, the writer always prescribes a cholagog, the usual one of his preference being three or four tablets containing calomel and podophyllin, of each gr. 1-6; bilein, gr. 1-8; with strychnine, gr. 1-250; at half-hour intervals, and followed in three hours or the next morning by a laxative saline. Mag-

nesium sulphate, best given in the form of a purified effervescent salt, especially appeals on account of the known hyperplasia of the intestinal surface; this salt being indicated in practically all acute hyperplastic conditions, *wherever found*.

Follows the intestinal antiseptic. Many drugs have been used and are being used for this purpose, but of late those in practically universal use are the sulphocarbolate (phenolsulphonate) group of salts. A readily soluble and aromatized tablet, containing 5 grains of the sulphocarbolates of lime and sodium, and containing a little bismuth subsalicylate, is the usual selection. One or two of these are to be given dissolved in half a glass of water, and followed soon by as much water as the patient cares to drink. The usual administration is at intervals of three hours. Diarrhea symptoms call for the tablets carrying the zinc salt in addition, the others to be resumed with its subsidence.

The sulphocarbolates are safe in any reasonable dosage, and the amount mentioned is but a working average for adults. In giving to children, Shaller's rule applying to toxic and active agents may be very much stretched, say, doubling the amount figured. The cases of typhoid fever in young infants are hardly a factor to be reckoned with, owing to their extreme rarity. During the night, when normal rest is secured, the regular administration need not be insisted on, but it is worth remembering that the bacillus typhosus keeps about the same office-hours as do the male and female denizens of the red-light locality of a wide-open town; therefore, awakening a patient at four- or five-hour intervals for the administrations is a justifiable procedure.

The Sanitary Regulations

It will be seen that the therapeutic start is made with the cleanout by means of cholagog and gentle saline catharsis (both measures to be continued as indicated during the course of the illness) and with the inauguration of the intestinal antiseptic line of treatment, measures to be undertaken coincidentally with the preventive protection of other members of the family and the community. Where a complete and proper system of sanitary inspection exists, this part of the attending physician's duties is simple. Merely report the case and give special instructions regarding disinfection of stools, urine, and also sputum, together with utensils used by the patient, and such instructions regarding regulation of the using of water, milk, and food as seem applicable; any cooperation being, of course, extended to the constituted health-authorities.

Where a negligent and backward community still lacks proper sanitary regulation and administrative carrying-out, the attendant should become as busy as the everpresent neighborhood busybody; the difference between his activities and those of the modern Polonius being that they will be in a good cause. Investigate that benighted horror, the open closet, the well or other water supply, the milk and food supplies, together with the habits of personal cleanliness or otherwise, of the family. End with a lecture, as laconic or as verbose as time and disposition of the giver and the receptive mood of the audience dictate. Let the beginning be on typhoid vaccination and make an impressive ending with the above-mentioned putrid and pestilential abhorrence.

As for a general antiseptic and disinfectant, this will be a good time to begin using the new chlorazene, now Americanized and simplified in name, but of most ample foreign and domestic laboratory proving, as well as clinical demonstration—incidentally of most emphatically logical chemical formula to such of us as are interested especially in chemistry. This seems to be destined to supersede largely many antiseptics for external use, and for disinfection of utensils and clothes, for treating typhoid stools, for washing the attendant's hands (in 1-10- to 1-2-percent solution), as well as for gargles and sprays. It is an agent most emphatically not to be overlooked.

Antipyretics in Typhoid Fever

Now as to the exhibition of antipyretics in typhoid fever, we do not consider it the best of modern practice to use those agents which influence temperature by directly affecting the thermic center or by lowering vitality in any way—consequently we eschew coaltar antipyretics. That class of remedies which in any way aid temperature reduction, through equalization of circulation and by aiding nature in elimination, thus being secondarily, although often promptly, antiantipyretic, we consider emphatically called for and essential aids to such hydrotherapeutic measures as are indicated, but often impossible of ideal attainment.

Aconite heads the list in point of frequency of indication. We can read in many works that aconite is to be used only in sthenic fevers or at the beginning of continued fevers. Most truly the administration of maximum doses of aconite, as a routine, in any fever

would be a most dangerous procedure, but, with an accurate liquid preparation or with the hydrobromide of aconitine, its principal active constituent, at command, the case is reversed.

Here we have a reliable, quickly eliminated equalizer of circulation and sedative to the heart, by relieving it of the necessity of pumping against an abnormal circulatory periphery. With elevation of temperature and the *small, frequent pulse*, we give aconitine at frequent intervals; Shaller's rule for age regulation being a good one to follow, but weight and individual characteristics also modifying dosage. Mere weight does not, of course, give an indication for increase of dose: weight may be from adipose tissue and result in a decreased area of drug-receptive surface; 1-800 grain of this reliable, quick-acting and quickly eliminated agent, given every thirty minutes and dosage modified by above rule, is a safe basis to go on. Always have it withdrawn on falling temperature or with established diaphoresis.

Thus governed, the drug is as safe in typhoid fever as in other disorders. The posology in disease, except as aiding in prophylaxis, promoting knowledge of causative microorganisms and giving an idea of what to expect in the way of symptom complexes, has no value in the treatment of disease-symptoms. However, in typhoid fever we contend so frequently with pulse and temperature change that aconitine is well given with minute doses of cactoid and digitalis and the usually indicated strychnine.

Cactoid, being a remedy of special value in irritability of the myocardium and its controlling nervous mechanism, is well given throughout the disease, as is also strychnine in small dosage, the valerate being a good selection for continued use, because of the sedative influence of the valerian radicle.

The "dosimetric trinity" often makes a splendid combination with which to give aconitine, as does also the "defervescent compound" where fulness and hardness of pulse suggest veratrine addition, a condition sometimes met with in typhoid fever. Digitalin, singly or with the "dosimetric trinity" combination will be almost a routine, overdosage and cumulative action being guarded against; we have here a most excellent diuretic and synergist of cactoid, which is well used as an alternant during extended exhibition.

Echinacea a Valuable Adjunct

And now comes attention to the *one drug*, in addition to the sulphocarbolates, practically always given by us. Echinacea, in some form, usually a grain every two hours, during evidence of active toxemia, of the concentrate, echinacoid; later, increasing interval and decreasing dose, in evidences of active sepsis increasing amounts being given. Supported in its use by our own extended experience, by the immense amount of corroborative testimony of others, and by the now increasing laboratory evidence, we give this agent in all conditions of blood disorganization, whether from the injection of the cell-destroying snake venom or from bacterial invasion, believing that the writer who first applied to echinacea the name "vegetable bacterin" chose that appellation most aptly. There are no toxic effects from anything like reasonable dosage (none from any that come to recollection), and it is a useful adjunct, to be fearlessly pushed hard. Its mention completes the outline of a system of treatment which, combined with dietary regulation, will enable us to keep down the complications to a minimum, or even to prevent severe cases of enteric fever. Those who decry medication will see an abnormal percentage of paratyphoid fever and mild cases.

Baptisia in Order

Baptisoid must, however, be borne in remembrance. When venous stasis in the peripheral circulation is evidenced by purplish discoloration and the mucous membranes are deeply colored, though not red, the specific indications for baptisia (the physiological action of which is that of a heart stimulant, cholagog, regulator of capillary circulation, and, in very large dosage only, a cathartic) are present. It should at once be pushed. A safe and certain agent is this American drug, wild indigo.

Local applications over the right iliac fossa are of assistance. The oldfashioned turpentine-stupes also are good; hot applications of nearly saturated solution of magnesium sulphate are to be remembered (also indicated in the splenic engorgement which often is present), and a kaolin-glycerin base, carrying guaiacol or other antiseptic, is, by no means, to be ignored.

A Summary of the Treatment

Use these measures, and, to reiterate, saturate the patient with echinacea, calcium sulphide being used as alternate, if desired; then push the sulphocarbolates until the small amount of the bismuth salt, used as index, ceases to turn the stools black; support strength by indicated measures, of which

nuclein and arsenic are valuable, not forgetting a ferrous salt; use just enough strychnine and digitalis to brace, without overdoing it—and it will be found that hereon hang all the laws; unfortunately not all the prophets.

Complications will be few, but for "typhomania" and the low forms of autotoxemic delirium use the small and repeated dose of hyoscine hydrobromide. Gelseminine occasionally will be useful with a high temperature, flushed face, tight pupils, and indications of brain hyperemia; but hyoscine is preeminently *the* remedy in "typhomania," as, in using our other potent and effective active agents, it will be used with care and with knowledge of its physiological action. Give the small dose and repeat, remembering that more can be given and that overdosage means increasing strain toward maintenance of physiological balance, by introduction of therapeutic antagonists, where the desideratum is, to use just the proper amount of any one agent to get effect.

If hemorrhage is seen, it will usually be in a case treated in other ways, and the indications will be the same as when the condition arises in other diseases. The instant requirement if is to relieve excess pressure on the area giving rise to the hemorrhage. This means, dilating the capillaries, and the first thought will be glonoin—sucked up in the mouth, unless collapse calls for the needle—atropine, with adrenalin frequently; 1-2 grain of emetine being also well indicated. Oil of erigeron, 5 or 6 drops on sugar or in capsule, may be the keynote of the subsequent treatment, which will involve moreover the consideration of hamamelin and hydrastine. A lime salt is called for if not already included in the treatment, and the calcium-creosote combination meets the requirements well, as creosote increases the coagulability of the blood.

The sudden and untimely fall of temperature, resembling termination by crisis of certain other disorders, is always to be looked upon as a grave danger-signal. Hope for termination by "artificial crisis," but look for intestinal perforation. The immediate therapeutic indications are, heat and strychnine nitrate, although it must not be forgotten that, where perforation is diagnosed and immediate surgical interference feasible, the indication is absolute.

Bed-sores are a complication no more to be considered in a properly-treated case, with even reasonable attention to nursing directions, than is the erstwhile hospital-gangrene to be expected in any excusable surgical procedure: if present, such sores will be treated under their surgical indications.

A glimpse at diet will be made in conclusion. We have always been rated as a "starver," but, since using the Bulgarian bacillus with our milk, and employing conservatively papain (the vegetable digestive operating in either acid or alkaline media) we have been a bit more liberal. At the same time, it is to be remembered that the nutritive material, that is capable of absorption by the limited working-surface of the gastrointestinal tract, and the reduced power of giving secretion and making absorption and final distribution, must not be pushed in the effort to save the body from its living temporarily off its own stored energy. Here is a problem definitely stated, and it is left for everyone to find his own x. Preference for error on the side of limitation is here confessed to.

Shall a little brandy or other alcoholic be permitted to sustain the strength? Too much chemistry already. Why add to the human laboratory the task of oxidizing alcohol? This remark is made with all due respect to those who still think otherwise, but the absence of booze in the battle seems to clarify it a bit.

Antiseptics inside and out, and watch the symptoms, while giving all possible supportive aid in the capacity of nature's coadjutor.

The Doctor's Office

How to Arrange and How to Equip It

By Ralph St. J. Perry, M. D., Minneapolis, Minnesota

THE choosing of the site of the doctor's office will depend a great deal upon the custom of the profession in his locality as well as upon the nature of his practice. In many places, particularly in the eastern cities and also in country villages generally, it is the custom for the physician to have his office in his residence. In the larger western cities, physicians are more given to grouping themselves in office-buildings or over drugstores in the smaller business-centers found in the residential districts. There are pros and cons regarding each location; usually it is best to "do as Rome does," unless there are special reasons for deviating from the local custom.

A young man or a new man who is starting in to build up a general, or "family," practice often will fare better by having his office at his home, until he is well established in that neighborhood; after which he may open up a "downtown" office, when his following will not forsake him. The specialist can open up downtown at once, for his business will not depend upon family conditions, and he must be accessible to patients from all parts of the city and to those from out of town arriving by the railway and interurban electrics.

For a long time there was much mooting over the groundfloor and the upstairs office. If the office-building has passenger elevator service, there is nothing against the upstairs office and much in its favor; if there are no elevators, the groundfloor has greater advantages. The disturbance from street-noises is offset, many times over, by the number of ailing ladies and small children, and the crippled, weakly, and senile who cannot easily climb a flight of stairs. Other things being equal between doctors, as they frequently are, the one with the most conveniently accessible and comfortable office is going to get the patients—for the first time, anyway. A main-street office is preferable to a side-street one, as it is easier to find, is generally easier of access, becomes better known, and is a constant reminder to the passing throng of one's existence and business. These are factors which big business corporations (e. g., United Cigars, Rexall) consider worth thousands of dollars as "business-getters."

Proximity to other business institutions needs consideration. Get near the most popular, best-known or best-advertised general store, if possible; its crowds of customers mean publicity and prospective business for you. Rooms over a drugstore are good, provided you are not related to the druggist, for in this event too many people will think of collusion and "graft." Saloons, butcher-shops, and undertaking establishments are taboo, as they drive away business and invite sarcastic comments.

Be Careful About Professional Associations

Associating yourself with another professional man is pleasant—sometimes; but, in a small city, a specialist should not associate with a general practitioner, as such an arrangement will soon lead to the insinuation that he is referring general work to his associate; and this petty jealousy often will cause trouble for both parties. The general practitioner can associate himself with a dentist or even with a lawyer without agitating the green-eyed monster; and such an arrangement frequently is ideal, as there is much community of interests, without any business antagonism. Several specialists whose fields of operation do not conflict can advantageously office together. Medical partnerships, unless there be an equality of attainments, education, and effort, and an equitable division of work and income, are prone to prove unsatisfactory. Mostly one partner excels or becomes dictatorial or "grouchy" or lazy, or patients "switch," and the dove of peace gets its feathers so badly mussed up that a dissolution of the firm, and enmity follow.

As to the size, arrangement, and equipment of the offices, much will depend upon the character and extent of the clientele to be catered to. Present requirements are vastly different from what they were years ago, and greater. I well remember my grandfather's office, of fifty years ago: at the corner of the lot, a building of two small rooms, each about 8 by 10, which served as reception-, consultation-, and drug-rooms, as surgery and laboratory and workshop. And in that office he examined patients, operated upon them, made braces, applied plaster-paris dressings, rolled out pills, and did all the numerous et-ceteras that went to make up a general practice in the '60s. I could put the whole outfit into my present reception room! And this two-small-room office was in vogue up to

the '80s. Today, legal requirements and the demands of the public call for at the least three rooms—reception-, consultation-, and operating-room.

Make a Modest Beginning

When I began the practice of medicine I had an ideal office-equipment in mind, but lack of money and a bit of advice prevented me from turning the ideal into a reality. One of my business friends, not an M. D., but a man of wide general experience, told me that it made a much better impression upon the people to start with a modest beginning and then gradually to increase one's equipment; thereby giving the impression of acquired prosperity, rather than inherited wealth, which a too resplendent initial showing would present.

I believe the man was right; that it sounds better to have people say, "Well, I guess Doctor Blank must be building up a good practice, because he keeps adding to his office and getting in new stuff," than it is to listen to remarks such as, "O yes, Doctor Blank opened up with a big flourish and a swell office, but he doesn't seem to have much practice."

Wherever you locate your office, see to it that you have all possible modern conveniences in the way of heat, light, electricity, hot and cold water, sewerage, compressed air, gas, telephone, handy and well-kept toilet rooms for ladies and gentlemen, janitor and elevator service, window-screens, storm-windows, fire-extinguishers, and everything else you can think of that may tend to reduce the worry, effort, and risks of your business.

The annexed sketch (Fig. 1) represents the plan of an office-suite that can be started as a modest two- or three-room office and then gradually expanded, as required.

The Reception-Room

The reception-room (Fig. 2) should be at least 10 by 15 feet, with windows enough to provide good ventilation, but, yet, not admit too glaring a light. Charcot, who was a past-master in psychic effects, used to have his reception-room almost dark, the lamps being subdued with colored globes and shades, while the consultation-room was brilliantly lighted, so that, when he appeared to receive the next patient he seemed to be surrounded by a halo. Furthermore, the decorations should be in mild hues, in fact, the whole color-scheme of the reception-room should be one of soft harmony rather than a chromatic syncopation. Rugs, pictures, draperies, floors, woodwork, and furniture should be included in this arrangement. There are several paint and alabastine firms who will gladly assist in this matter without cost to you.

Your furniture should be substantial enough to withstand incidental wear and tear;

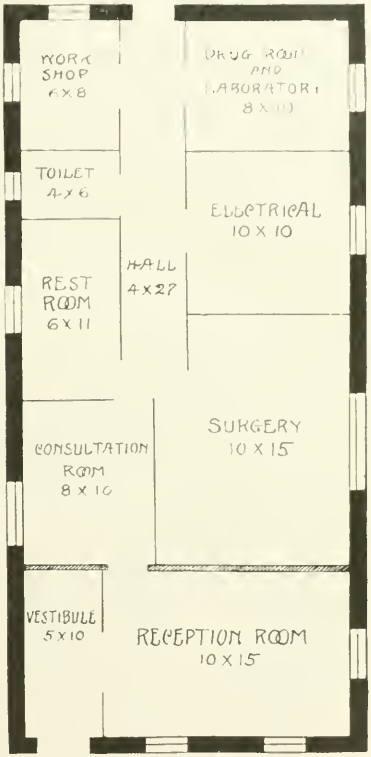

Fig. 1. The office plan.

plain, so that it will not catch dust and harbor germs, and of a finish which does not show scratches, nicks or marred spots. But even with these restrictions, you have your choice between a number of artistic styles, such as mission, Sheraton, Heppelwhite, and so forth; while as to finish, there are at your command several of the dull or rubbed varieties for mahogany, oak, maple, birch, or other wood of your selection.

Complete office-outfits that are eminently satisfactory can be purchased from dealers,

and for these the neophyte may pay in installments if he is pecuniarily anemic. Such an outfit should consist of two or three settees or several plain chairs, one or two rockers, a center- or library-table, pictures, waste-basket, umbrella-stand, rug, and a table-lamp. To these may be added a clock, flower-stand or -basket, desk for office-girl,

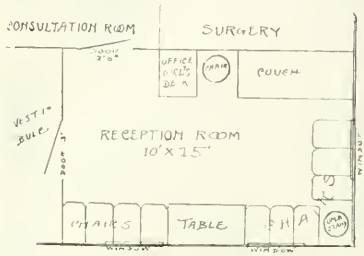

Fig. 2. The reception room.

mirror, costumer, magazine-rack, besides whatever other individual bits your needs may call for or fancy suggest.

A word as to pictures. Personally, I do not like the idea of displaying "medical" pictures in the reception-room, or stuffed birds and animals or mounted insects or other deceased fauna. Suggestive and "sporty"

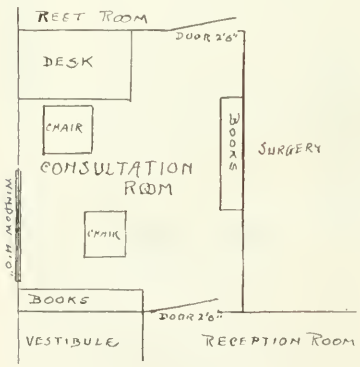

Fig. 3. Consultation room.

pictures should be excluded. There are available, thousands of bits of American scenery, historical scenes and buildings, and other interesting subjects, and if perchance you have traveled and know of these places personally they often will afford an opening for entertaining conversation. Your diploma and licenses may be displayed in the reception-room, but the consultation-room is a better place for these. Do not display the originals, as they are too valuable and cannot be replaced if lost, but rather have photographic reproductions made, keeping the originals in a fireproof vault.

Current magazines and daily newspapers help to hold waiting patients. In selecting these, choose those of a light character or, if of a scientific nature, select the "popular" kind that are full of short articles. One of my globetrotting friends several times has remarked to me that one great difference between the offices of American and European physicians is, that the literature served by the

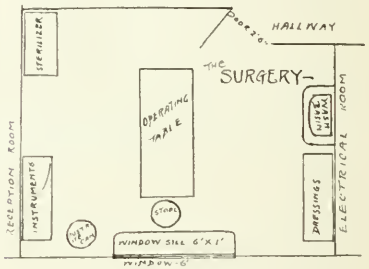

Fig. 4. The surgery.

former is from one to five years fresher than that found in the latter.

The Consultation-Room

The consultation-room (Fig. 3) is the place where you talk matters over with patients, listen to their tales of woe, and where the business affairs of your services are conducted. Examinations, treatments, and operations are performed in another room or else in a part of the consultation-room partitioned off for that purpose. Consequently, the consultation-room need not be larger than 8 by 10 feet, as all the space required is just enough for your desk, desk-chair, patient's chair, besides one extra, and not too comfortable, chair. I say, "not too comfortable," as it is a good idea to discourage the presence of a third party during the consultation. The consultation-room should be finished off in light colors, say, colonial yellow and white, or some such combination as will make the room light and cheerful. Your book-cases can be arranged around the walls, while the spaces between or above are hung with diplomas, licenses, certificates of postgraduate

work, portraits of medical and surgical celebrities, and so forth. Here, too, you can display small family photoportraits, as of your wife, children, parents, and such of your ancestors as may have been physicians or have acquired celebrity in other directions.

In arranging the furniture of this room, place your desk so that the light will be

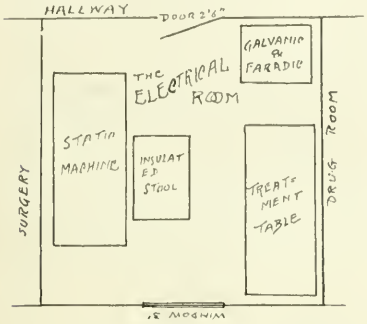

Fig. 5. Electrical room.

behind you when you face the patient. It is of no import for your own visage to be illuminated during a consultation, but all-important that the full light fall upon the patient's face; the play of the patient's features (or of the friend's present) often counts for as much as the spoken word, and sometimes even more. For evening work, your desk-lamp should be so adjusted that its light can be thrown full upon the patient, leaving you yourself in the shadow. Suit yourself as to the kind of desk chosen—whether rolltop, flattop or dropfront—but at all events get one that will accommodate your correspondence and accumulated loose literature without its top being all littered up. It is only the "brainy" and "literary fellers" who are permitted (!) to have disordered desks. (Q. v.)

The doctor's desk-chair should be comfortable, and may be swiveled and cushioned or a plain stool, as suits him best. The patient's chair should be comfortable and of a solid, extra-heavy construction, almost immovable, in fact: for, we want the patient to "stay put" when we get him in the most advantageous light. Also that same chair frequently is occupied by a book-agent, detail-man or some genial purveyor of beautifully lithographed and gilt-sealed paper who wants to "let you in on the ground floor"; and I have found nothing so disconcerting to these gentry, when they get to the nudgeup point of their eloquence, as to find themselves seated in a chair that makes nudging unpleasantly difficult and renders the desirable approximation impossible. The third chair I have mentioned above—well, mine is a short-legged stool.

A magazine-rack for current medical literature is desirable, but, mark this, all professional literature should be kept where patients cannot gain access to it. Many a practitioner has lost a good many patients by leaving literature in his reception-room where it was looked over by waiting patients, who wot not of technical readings, but who "wotted" a whole lot of the advertising pages, filled to the brim with the claims of "ethical" proprietary medicines for numerous named diseases. Finally, no consultation-room is complete without a commodious waste-basket.

The Surgery and Laboratory

The surgery (Fig. 4) in a small office-suite answers three purposes, those for examination,

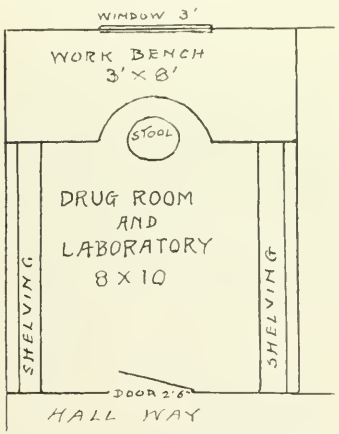

Fig. 6. Laboratory.

treatment, and operating. If one is pinched for space, it also serves as a laboratory and drug-room.

This room should be large enough to hold all of your treatment and operative paraphernalia, while allowing for plenty of working-room. In a small office, this means compactness of furniture and the utilization of all wall-space possible. The walls and ceiling should be enameled in white or very

light green or blue tints, and be striped or stencilled in the complementary colors or in silver or gold, in order to break the monotony. The woodwork should be in white, while the floor is made waterproof with a crack-filler and finished with an elastic white paint or good enamel; or it may be covered with a tile-patterned linoleum or congoleum, or else a cement or encaustic tile flooring may be laid.

The equipment of the surgery may be itemized as follows: An instrument-cabinet;

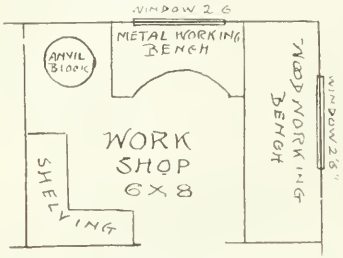

Fig. 7. Work shop

an operating-chair or -table of simple mechanism, but which will afford every needful position for examinations, treatments and minor operations upon any part of the body, and be provided with hand- and foot-rests, leg-holders and leg-straps, an irrigating outfit, Kelly pad, and slop-jar; further, a large window-shelf or else a small two- or three-shelf instrument-table in lieu thereof; a cabinet for dressings; shelving for drugs; small sterilizer; stools for surgeon and patient. No unnecessary piece of furniture should be allowed to take up floor-space and be in the way. All steel and wooden furniture should be white-enameled, all smooth metal work nickelplated, and all rough metal black-enameled. All white enamel should be water-, blood-, and soapsuds-proof, and should not turn yellow with age.

The surgery should have installed running water, and at one side of the lavatory there may be built a small laboratory for making urinary tests, bacteriological examinations, and, doing such other laboratory work as the doctor may want to carry on. Plans for these small laboratories can be found in several textbooks and guides to laboratory-work.

Electrical apparatus in a compact office must be built along vertical lines, hence, a wallplate is better than a table-outfit. If your work increases, you can install a complete electrical plant in a separate room (Fig. 5). Electricity, today, is used chiefly in making examinations and in the conservative treatment of some conditions where we can not, should not or dare not use the knife. Diagnostic lamps call for a darkened room or corner, which can easily be arranged by means of movable screens, partitions or curtains. In the x-ray equipment, unless you intend to go deeply into roentgenology and specialize therein, I would advise the static-machine equipment, as this gives a light strong enough for bone- and foreign-body work, while the static current is valuable in the treatment of many neurotic and organic pathies. Should a separate electrical room be equipped, its walls, floors, and ceiling should be dark colored; the curtains in two sets, one for ordinary use and one of some impenetrable black cloth; so that all extraneous and reflected light may be excluded. Such a room can also be utilized for photo-

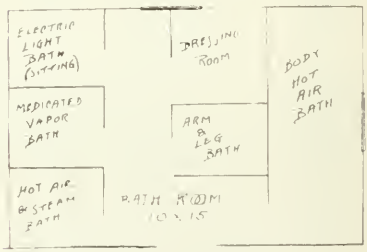

Fig. 8. Treatment room.

graphic work, and possibly for some other purposes.

The drug-room and laboratory (Fig. 6) may be combined in a special room, if you have the space. Where you do your own dispensing, as many of us do in this country, you will want enough narrow shelving to accommodate 100 or 200 small bottles; for you will carry a stock of the alkaloidal preparations, some larger pills, a few chemicals, and such like, all of which can be arranged on shelves 3 or 4 inches wide and built up 6 inches apart. Fluid extracts, syrups, and the bulkier drugs will call for more commodious shelving, and you will have to arrange them to suit your individual requirements. You know what drugs you use and in what forms you use them, so, build accordingly. Your prescription-workbench is best arranged as shown in the sketch, and this may also be used for laboratory-work. Your microscope

may well be kept on your desk in the consultation-room, where it is a silent but potent indication to patients and visitors that you are up to date in your methods. Many patients like to take a peep at some germ- or other slides. Many months ago, I showed "my friend de barkeep" the little bifurcated germs of septic love, and since then he has sent me several hundred dollars' worth of G.-U. work.

The Workshop

The workshop (Fig. 7) calls for a substantial workbench and such tools as are needed in making repairs about the office equipment and in fashioning braces, trusses, and so forth, if you are of an orthopedic bent. It is desirable that you have your own separate toilet-room, as those of many buildings are not fit for ladies and children to use.

Some physicians equip a special room for baths, including hot-air, electric, medicated-vapor, and even tub-baths (Fig. 8). But, when you convert your office into a treatment-institution, then a rest room is almost a necessity, for, many patients need to lie down or keep quiet for half an hour or so after each treatment. To take this rest in the treatment-room delays the treatment of others waiting, while, moreover, people do not feel like lying down in the reception-room, where they become the object of curiosity and too often victims of misplaced sympathy or hysterical gushings.

In addition, there are many little "knick-knacks" of equipment that will come in handy. In the operating-room, a "justrite" waste-pail serves to hold used towels, aprons and other soiled linen. A "want-book" hangs at the corner of the desk, and things to be ordered are noted therein as soon as the need becomes apparent—when stock on hand gets low, and not when it is all gone. Brown "glassine" paper bags are used as receptacles for soiled cotton, swabs, tampons, sponges, and such waste. An enameled douche-can hung on the wall holds the bag which, when filled or at the end of the office-hours, is removed, thrown into the waste-basket, and a clean one put in place, ready for more work. The glassine bags cost a few cents a hundred and the douche-can only a trifle.

The Dressing-Room for Patients

A "dressing-room" for patients (Fig. 9), which takes up no room and interferes with nothing, can be provided in the following manner: About 6 inches above the outer door of your surgery fasten to the door-frame a semicircle or half-hoop of quarter-inch iron rod, in diameter 6 inches greater than the width of the door; 6 inches of each end of the rod is turned down at a right angle, flattened, and bored with two countersunk

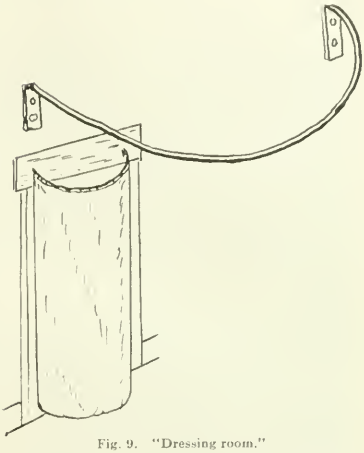

Fig. 9. "Dressing room."

holes for screws. A coat of black shellac is applied. Over one end of the rod are slipped a dozen 1-2-inch brass curtain-rings, and the frame is then screwed into position. On this frame is hung a curtain of light-figured silk or cretonne which just clears the floor. The patient who needs to remove or adjust any part of clothing or underclothing can retire behind the curtain and do so without embarrassment to the doctor. When not in use, the curtain is drawn back against the wall, out of the way.

Office Signs

The best office-sign is one in plain gilt letters on a black-painted small board for an outside swinging one, or on glass for hanging in the window. Use only your surname, as "Doctor Jones," unless there be more than one of your name in the town and distinction becomes necessary. Do not put an expensive gold-letter sign upon a window-glass, as this will be a dead loss if the window gets broken or should you move. White or gold enameled letters may be fastened to the window-glass, as they do not break and can easily be removed. Do not have too many signs: one swinging and one window sign should suffice.

What the General Practitioner Can Do in the Treatment of Chronic Diseases

By George F. Butler, M. D., Kramer, Indiana

Medical Director of The Mudlavia Sanitarium

[*Continued from August issue, page 652.*]

SCIENTIFIC rest cure is often of incalculable value in the treatment of chronic diseases, and the principles underlying it and its application are well described by Dr. Robert Walter in the following quotation:

"The rest cure is based upon a great leading thought: The more work, the less power; the less work, the more power. Rest cure seeks to increase power, making it to be the very opposite of much that passes as medical wisdom."

This practice is based upon another fundamental thought, viz.: Vital power cannot be manufactured; it can only be recuperated. No amount of feeding, digestion or assimilation can take the place of sleep. No tonic, stimulant or medicament can answer to the demands of the vital organs for rest.

"Nature's sweet restorer, balmy sleep" is the cornerstone of scientific rest cure. We naturally inquire what sleep does to make it so important. The answer is, it does nothing; it stops the doing. The tendency of all work is, to exhaust power; the object of sleep is, to stop the work and save the power. Saving the power permits its recuperation, giving more power for future work; using the power means its expenditure, leaving less power for future work. The true object of rest cure is, to recuperate vital power, by refusing to use it today in order that there may be abundance of it tomorrow.

But the question naturally arises, Do all organs require rest? The answer is, All must rest if health is to be maintained and life perpetuated. Perhaps no organ of the body works so continuously as the heart, and, if any organ could work without rest, the heart can. But what are the facts? First, the heart rests between the beats, and, second, every man must spend a portion of his time in the recumbent posture—that is, lying down—to relieve the heart's labor. Men can live for weeks without food and for days without even sleep, but no man can survive many days and maintain an erect position. It is said that the most horrible death that a man can be put to is, to compel him to retain continuously the standing-position. He may sleep in this position, but such sleep does not rest the heart. While lying down, the labor of the heart is very easy; the blood flows nearly on a level; but when we arise the heart is compelled to pump against gravity, whereby its labors are immeasurably increased. Such labor soon becomes intolerable, for which sleep alone can never atone. If patients who suffer from insomnia will lie quietly in bed, whether they sleep or not, they will be surprised to find how little sleep is actually necessary. It is by getting up and pacing the floor and worrying that they exhaust themselves. Rest of body without sleep is much more valuable than sleep without rest; and it is fortunate that we can usually have the former even if the latter is denied us.

But, if the heart cannot survive without rest, what shall we say for the stomach, liver, lungs, bowels, kidneys, or for the muscles and nerves of the body? Who is it that says that these may be continuously worked, not only, but that their work may be greatly increased by the process of a bastard rest cure—a rest cure based upon the theory that life can be manufactured?

Such a rest cure is in existence and has attracted to itself great attention, being commended by men of great name; and, yet, we do not hesitate to call it a bastard rest cure. It violates every principle of the rest cure. Let human common sense bear testimony to its absurdities.

First. It puts the patient to bed—which is a wise thing.

Second. It excludes from its presence all friends, neighbors, Job-like comforters—which often is an equally wise provision.

Third. It inhibits communication with the outside world and remands you over to the tender mercies of a trained nurse, who shall feed you as a babe, spank you as a naughty child, and often writes upon the door of your chamber, "Who enters here leaves hope behind."

If the intelligent patient can find himself submissive enough to rest under such circumstances, well and good. But, let him not forget that all rest ends here. At this point begins the stuffing and stimulating processes that more than neutralize the benefits of

relief from social taxations. All day long the stomach is plied with food. Liver, lungs, bowels, and kidneys are compelled to keep pace with an ever laboring stomach. And even if the food is predigested and the stomach somewhat relieved these organs must work still harder because of this unwise invention. But, then, nerve and muscle must not be left to any rest. Day by day, even hour by hour, electrical currents must be made to course through these organs, producing nervous excitements and muscular contraction, until their vital forces are wellnigh exhausted. That this is an abortion of rest cure, who that considers can doubt, with one or two organs rested and a half-dozen others forced to the utmost limit of their powers?

The Principles of a True Rest Cure

A scientific rest cure must be a universal one. Every organ of the body should have its rest if health would be recuperated. If it were true that power could be manufactured, by forcing stomach, liver, and kidneys, there might be some excuse for the forcing-process referred to. There would, indeed, be reason for denying the necessity of sleep and of the lying-down posture if power could be produced by any process whatever.

We have demonstrated by unimpeachable fact and argument that vital force can no more be produced than can gravitation or chemical affinity. Vital force is man's inheritance; it comes to him as the days come, an income which he may use but should not squander. He may refuse to use it in driblets, and so wait and recuperate it until it comes with the torrent's rush; but by no art or device that man knows of can he keep at work the machinery that makes life. It is not made by machinery; vital force is God-made and inherent—not man-made.

Scientific rest cure involves rest of body and mind, of muscle and nerve; in a word, it implies reduced activity of all vital functions. And this end is attained in several ways:

First: By lying down; sleeping, if possible. Second: By securing freedom, as much as possible, from all social and nervous taxations.

Third: by abstinence from food.

The last-named measure—starving—not only affords rest to the stomach, but also to the liver, lungs, bowels, kidneys, and especially to the heart, which latter's work consists chiefly in circulating the blood or at least in controlling its circulation. The amount of the heart's work depends somewhat upon the amount of the blood present, but chiefly upon the ability of the blood-purifying organs to make the proper changes in the blood as it passes through them. The fact is, the blood cannot pass through the latter organs without the modification having been effected to some degree.

But, if the blood does not pass through the liver or lungs or kidneys easily, the labor of the heart is greatly increased. And whether it passes through these organs easily depends both upon the heart's vigor and upon the vigor of the organs named. The modifying organs can be invigorated only by resting them; by resting these organs the heart is also rested; but none nor all of them can get a reasonable rest while the stomach is constantly forcing upon them new material to be changed, purified, and circulated. Work of stomach means work of all other organs; rest of stomach means rest of all the organs.

Fasting Versus Feasting and Bloodletting

Sixty years ago men avoided the inevitable consequence by opening a vein and letting the blood run out. By this means, the heart, lungs, liver, and kidneys were all greatly relieved and physicians thought they had a panacea for most diseases. The practice gave relief, but it was a senseless one. Where is the wisdom of working the stomach, liver, and lungs to make blood and then to spill it upon the ground? Why not secure all the benefits that come from bloodletting and avoid all its evils? This can be accomplished by simply giving liver, heart, lungs, kidneys, and bowels a rest, because of first affording rest to the digestive organs.

The inevitable objection offered against this practice will be, that the patient gets weak. Certainly he does, but not any weaker than sleep makes him. A sleeping man becomes weak even to helplessness, and often he lies there until he is burned to death. But who does not know that the sleep makes him weak at night in order that he may become strong the next day?

Let us for a moment inquire what this condition called weakness actually is. Is it not in fact a letting-go of tension, a relaxation of muscle and nerve? And does not strength return through action of muscle and nerve, with corresponding taxation and labor?

It is literally true that when we are weak we are getting strong, whether the weakness be owing to sleep or to rest, to inaction of body and mind or to anything promoting these. It is equally true that we are expending and exhausting our powers by work and activity of any organs or by whatever will promote

their activity, such as stimulants, tonics, excitements, whether these are in the form of alcohol, drugs, baths, electricity or even food. Some of these are conditions for maintaining good health, such as baths for keeping clean, and food for supplying normal wants; but, to administer any of these for the mere purpose of promoting activity or giving strength, under the absurd notion that this is sustaining life and promoting health, is utterly opposed to science and common sense, to all fact and sound reason.

Strength comes with work only because strength, as well as work, tends to exhaustion. Contrariwise, weakness always comes with rest only because of the relinquished power, and by refusing to use it we allow it to accumulate. A horse turned out to pasture with nothing to do is well known to grow so soft and weak as to be worthless for work, but it recuperates and often becomes as a new horse. Take it out of pasture, feed it grain and put it to work slowly, and the animal's strength gradually returns and it is once more a valuable horse.

There is a great law of nature that explains all of these seeming anomalies: The law of effects. The secondary effect of any act, habit, indulgence or agency is the exact opposite of the primary effect. Fasting and not feasting is the proper thing for all who have wasted their substance in ways common to prodigals; perhaps not by riotous living, but by foolishness in many ways.

But, fasting should always be connected with rest in bed. Let it be a means of rest, not of penance. He that will not work shall not eat; conversely, he that will not eat must not work.

It is rest cure that we are advocating, not starvation cure. It is recuperated and not exhausted vitality that we seek; and recuperation involves rest, while exhaustion depends upon work and whatever compels work.

Concerning the principles of scientific rest cure, let us say, therefore:

Preservation of Strength Is Fundamental

The power that made, preserves, and operates the living organism is the only power that can heal or cure it. No intelligent physician doubts this to be true; he only affirms that we must assist nature, and his plan of assisting nature is always the plan of exciting and stimulating the vital organs, as with calomel for the liver, with purgatives for the bowels, with strychnine for the muscles, and so on—which is really the plan of preventing rest and promoting exhaustion.

If, then, it be true that only vital power heals, it follows legitimately that the rapidity and certainty of cure depends upon the amount of vitality possessed. And this is in accordance with all medical theories. It is everywhere agreed that the diseases of our day are due chiefly to overtaxation from work or excitements of social and political life.

To sustain the patient, is the leading idea of medical practice. But how is he generally sustained? By exciting, stimulating, and preventing rest. Physicians do not seem to know that the heart, liver, stomach, bowels need rest as well as do the nerves and brain. The error, no doubt, is due to the theory that the feeling of strength is coincident with its possession, when in reality the feeling of vigor coincides with its expenditure. Men feel strong while they are working and weak when they are sleeping. Men have not studied this great truth, and, hence, a great error is committed everywhere.

It follows that rest cure means rest of all the organs, not some of them. The failure to recognize this truth is the explanation of the increasing weakness observable among the people.

Recuperation of the Patient Must Be Physician's Aim

If, therefore, it is vitality that alone cures, and if the rapidity and certainty of cure depend upon the amount of vitality—as medical practitioners all agree in the very act of trying to sustain the vital power, as well as in the general sentiment that ill health and disease are due to the overtaxations of the people—it follows that recuperation of this power is the leading thought of all successful medical treatment. If there is in the sick power enough in a given case, all obstructions will be overcome and the patient will be restored to good health; if he dies or becomes a chronic invalid, it is because of exhaustion of power. The *sine qua non* of all successful treatment is, the recuperation of power. If this can be secured, a case will not prove fatal.

The fatalities so common, especially when important lives are at stake (as those of presidents or ex-presidents), are due to the error of supposing that we can manufacture vitality out of food and sustain it by means of stimulants. Either theory is utterly false. Rest and sleep are the only means of recuperation; feeding and stimulating are the means of compelling vital activity and expenditure.

We trust that the time may soon come when some physiological phenomena will be suit-

ably elucidated and understood, that are now as d·lusive as are some physical ones. The sun does not revolve around the earth; neither do stimulants and tonics, or even food, give to the invalid what they are believed to give. They actually take away what they seem to give, but deceive both patient and doctor by making the power that is expended and depleted apparent in the process of expenditure. [*To be continued*]

Infantile Paralysis

With Some Suggestions for Its Treatment

By M. W. Thewlis, M. D., Wakefield, Rhode Island

SEVEN of the following eight cases of acute anterior poliomyelitis occurred in the epidemic of 1913 and were all within a radius of eight miles, although each case was in an adjoining town. In every instance, except one, there was no possibility of one case coming in contact with another. These patients are all living at present, except one, who was accidentally drowned, and in all cases but one the patients made an excellent recovery without experiencing any contractures. The epidemic of 1913, however, undoubtedly was less fatal than is the present plague of 1916. There is no question but that the mortality rate varies in different epidemics.

Report of Cases

Case 1. Miss C., aged 18, consulted me on September 15, 1913, for occipital headache. The next day she was ill in bed and for a week she had what looked like an attack of gastroenteritis. She complained of backache, numbness of the hands, and incontinence of urine, which condition was of three days' duration. On the seventh day, there set in a flaccid paralysis of both legs and she also was unable to move the left arm; but at the end of three weeks, this arm gradually regained its powers, so that she could raise it to her head. The legs remained paralyzed for two months, after which time she could be helped into a chair. Electric treatments with the high-frequency current, by means of a surface-electrode, were begun at the end of the second month: also massage treatments. Improvement gradually took place, and in a few weeks she was able to walk about with the aid of crutches.

Case 2. E. S., boy aged 13. When called, September, 1913, he had been sick three days with what the mother called biliousness, and she requested me to prescribe for an attack of "rheumatism" which she thought the boy had. An examination revealed a typical case of infantile paralysis involving the whole right arm. The boy at no time had been sick in bed. Massage was not begun until December, and in the following February the high-frequency current was applied and continued three times a week for four months. He improved to the extent that he could use his arm playing baseball, and was able to do quite a good deal of work.

Case 3. M. G., girl aged 5, had been playing with the boy described in case 2. On October 10, 1913, she was taken ill with vomiting and diarrhea, and on the second day of her illness she suddenly became unable to move her legs. On the 6th day, she had so improved that she could run about the house as usual. This undoubtedly represents an abortive case of infantile paralysis.

Case 4. T. A., boy aged 2, was taken ill with gastroenteritis on October 14, 1913. On the 6th day, the mother noticed that the boy could not move his legs. The high-frequency current was not applied until May, 1914, because there was a marked coldness of the legs for several weeks, which made the parts extremely sensitive, consequently preventing the use of electricity. After one month, the child could move the legs, and he steadily improved, but had a tendency to club foot, so that a light, well-constructed brace was fitted. The effect was excellent. The boy, today, experiences but little difficulty in playing the usual games with other children.

Case 5. M. S., aged 4, on October 18, 1913, fell from a chair and the mother thought that the fall produced the paralysis which the child had in the legs. It was unquestionably a case of infantile paralysis, and in the course of a month the high-frequency current was applied twice a week, one minute at a time. This caused a marked improvement in the condition, and, in February, 1914, the child could walk into my office without assistance.

Case 6. H. P., aged 2, was taken ill, in October, 1913, with fever, which lasted four days. Paralysis of the lower extremity re-

sulted. At the end of a month, the high-frequency current was applied. Recovery was complete.

Case 7. C. K., boy aged 4, was taken ill on September 9, 1913, with all symptoms of gastroenteritis. At the end of one week, the child was paralyzed in nearly every muscle. The arms were flaccid, as were both legs. The child could not move in any direction. The intercostal muscles were paralyzed, and at times there was a partial suffocation and paroxysmal dyspnea, which undoubtedly was due to involvement of the bulbar nuclei. There was also a paralysis of the bladder-muscle as well as of the bowels, this continuing for one month. Involvement of the sphincters for this length of time is unusual in infantile paralysis, although occasionally it may be present for a few days. The left side of the boy's chest was more paralyzed than the right side, which produced a lateral curvature of the spine. On October 8, the surface-electrode of the high-frequency current was applied for a minute's treatment, and continued three times each week. On November 6, a plaster-jacket was applied to the spine, later a well-fitting spinal-brace being substituted for the jacket. In January, braces were fitted to the extremities. The upper extremity regained its use, but it was only at the end of two years that the child could take a few steps alone. In June, 1916, he had bronchopneumonia, from which he recovered. He can now take a few steps with the aid of braces. In this case, there are no contractures and I attribute this to the faithful application of Dr. E. G. Abbott's method of overcorrection.

Case 8. P. D., girl aged 3, was taken ill on September 8, 1915, with paralysis of the right leg. On October 8, the high-frequency current was applied and in two months the child apparently was cured.

Comment

An analysis of the symptoms in the foregoing cases shows that the onset is usually insidious, with fever and malaise for two to five days before the paralysis appears. There is sometimes occipital headache, pain on the spinous processes, and general hyperesthesia. Usually there is no pain in the extremities. Gastroenteritis, with fetid diarrhea, is present in many instances, and incontinence of urine and of feces may last for three or four days. It is unusual, as in case 5, to see a paralysis of the bladder and the bowels last for a whole month. The atrophy was quite marked in all instances, but was greatly improved by the application of the high-frequency current. The muscles involved in most instances of the residual paralysis were the extensor longus digitorum, the peronei, and tibialis anticus.

In making a diagnosis, one should not forget that infantile pseudoparalysis of syphilitic origin may be present. I once had under care a 2-year-old child whose parents I knew to be syphilitic. The child was seized with every symptom of infantile palsy, with loss of power, but, strange to say, painful and swollen joints. I promptly administered mercury, in the form of a gray powder, which brought quick improvement. I might add, parenthetically, that young children can be given this preparation in large doses without its causing bad results.

Treatment

Prompt isolation was not required in the epidemic of 1913, yet, none of the cases occurring could in any way be traced to those here described. The noses and throats of the patients and also those of the other members of the respective families were treated daily with an antiseptic spray composed of the aromatic oils. Their bowels were flushed with a saline. A liquid diet was ordered. Bromides were given in some instances, for inducing sleep. Baths of warm salt-water were given twice daily, but no massage was allowed for one month or longer; that is, not until the acute stage had completely subsided. As soon as this stage had ended, I prescribed a course of iron—3 grains of the phosphate three times a day.

At the end of the acute stage, which may be in from one to four months, I began the application of the high-frequency current, with a surface-electrode, from a Campbell coil. In some cases, this treatment cannot be begun before four months from the onset of the attack. The degree of hyperesthesia will usually give the indication for the use of electricity, for, occasionally the degree of sensitiveness is so great that it is necessary to use the weakest possible current that can be given with the electrode. At the first treatment in the case of a child, I do not, as a rule, pass any current through the electrode, in order not to frighten the child, thus gaining its confidence.

Often it is several weeks before massage can be instituted, owing to the tenderness of the skin. The patient described in case 4 still comes to my office for these electric treatments, three years after the attack, and even now there are days when the legs are so sensitive that I cannot give the treatment.

On some days, there is a marked coldness of the limbs and then they are of a purplish color. This discoloration of the skin contraindicates the use of electricity.

Overstimulation either by means of the current or by massage will quickly tire out an already fatigued muscle and will defeat the purpose of the treatment, so that, if the electricity in its mildest application causes any pain to the child, it is better to wait a few weeks, until the hyperesthesia has entirely disappeared, before resuming the treatment. The purpose of the massage and electricity is merely to keep the muscles alive until the nerves are able to afford them proper nourishment; but, if overstimulation is practiced, the results will be disastrous. Three years after the attack, in some cases, I apply the current for only a minute at a time, repeated twice a week. It should not be continued longer than a minute at a time, during several weeks, while in those cases which are more tolerant I seldom use the electrode longer than three minutes. The gentle stimulation assists nature in keeping the muscles alive until the nerves regain their life. The electrode sometimes is applied to the spine for thirty seconds.

The high-frequency current is particularly adapted to these cases, because there is passed quite a good deal of electricity, while causing very little sensation of discomfort; this being due to the low amperage. A course of electricity is the most harmful procedure that can be employed in infantile paralysis if not done properly; if however, 1-minute treatments are given, and a very mild current is used, the results are very satisfactory.

As a rule I avoid the muscles that are likely to be involved in a contracture, because the muscles merely are stimulated to contract and thus the purpose of the treatment is defeated. For example, it is well not to treat the Achilles tendon, because that is liable to be stimulated to contraction. On the other hand, if the electrode is applied to the anterior part of the ankle and foot, it will stimulate the muscles that antagonize this, the most frequent, chronic contraction.

Method of Preventing Contractures

Dr. E. G. Abbott, of Portland, Maine, for a long time has been applying his theory about the overcorrection of deformities to the treatment of lateral curvature of the spine. He believes that in order to correct a deformity it is necessary to overcorrect it in the opposite direction, so that the deformity will be transferred to the opposite side. This principle yields remarkable results in his hands. I have rigidly applied Doctor Abbott's principle in these cases of infantile paralysis and, as a result, have not yet seen a single contracture to follow.

At the end of the second or third week, I have the nurse begin passive movements of the affected parts. In the case of the arm and fingers, these are moved with force, if necessary, in all directions. The basic principle is, that it is not sufficient to correct a deformity; it must be made to equal the deformity in the opposite direction, in order to bring it back to a normal position.

In the legs, the most frequent location of a contracture is found in the Achilles tendon. In this case, the foot should be extended so as to stretch the tendon as far as possible. In two of my cases, I experienced trouble in flexion of the first toe. It required prompt stretching in order to prevent a contracture, as this would prove very inconvenient later in life. Sometimes this tendency to a contraction of the fingers or toes will develop overnight, so that it is always advisable to watch these small joints constantly.

It requires the services of a trained nurse to follow instructions as to stretching the muscles, for, usually, mothers will not carry the procedure to the proper point, since it hurts the child. It requires painful stretching at times, and the nurse should be instructed not to stop short of hurting the child, but to make sure to produce the required result, even if it causes pain.

THE discoveries which have transformed the face of modern medicine have been in the field of infectious diseases, and in no other department of medicine could new knowledge have meant so much to mankind, for the infectious diseases have a significance to the race possessed by no other class of disease, and problems relating to their restraint are scarcely less social and economic than medical.—*Welch.*

What Others are Doing

SODIUM SALICYLATE IN SCARLET-FEVER

In a meeting of the Medical Society of the Paris Hospitals (*Paris Med.*, July 1), Drs. F. Ramond and G. Schultz recommended giving sodium salicylate to all patients having scarlet-fever. The drug is to be given from the beginning of the illness and continued until the fever and general symptoms have disappeared.

All right—but saturate the patient with calcium sulphide, and watch the urinary secretion.

THE THERAPEUTICS OF WATER ADMINISTERED SUBCUTANEOUSLY

The *Medical Times* (London) for July 1, abstracts a paper presented to *The Dublin Journal of Medical Science* by G. Arbour Stephens, who has obtained some very interesting results from subcutaneous injections of distilled water into carcinomas. The suppurating cases that were overwhelming in their offensiveness, after three injections of 10 mils (10 Cc.) of water, lost all their horrid smell, although the progress of the disease was not arrested.

In studying these observations, the author concluded that in every disease where chronic or subchronic inflammation occurs, when not permanent, subcutaneous injections of distilled water should prove curative.

The treatment is not specific, but naturalistic, in that it only helps nature to bring about recovery; and it does this by so altering the surface tension of the corpuscles as to allow of a more rapid osmosis of the "antibodies," whereby they are mobilized the more readily for the battle against the toxins, while diapedesis is stimulated. Being naturalistic, it follows that distilled water, injected subcutaneously, where it comes into rapid contact with the leukocytes, ought to be of value in all sub-acute or chronic inflammations.

In accordance with this line of reasoning, the author employed injections of distilled water and found them of value in syphilis, rheumatism, gonorrheal rheumatism, inflamed glands, and diseased appendix; but it is quite possible to extend the list by applying the treatment to other suitable cases of subacute or chronic inflammation.

PITUITRIN IN LABOR

In a paper on the merits of pituitrin in labor, Collin Foulkrod (*Ther. Gaz.*, May, 1916) points out that obstetricians by no means are unanimous in their verdict, some authors being very enthusiastic in their conclusions, while others counsel care. Against the practically general opinion that pituitrin should not be used in the first stage of labor, the author cites S. W. Bandler, who asserts that in this stage, under proper conditions, the remedy is of the greatest aid in furthering the progress of labor.

Foulkrod, however, holds that caution should be exercised when employing pituitrin, until thorough acquaintance with the possible dangers in each patient shall assure safety; this not only because the pituitary preparations vary in strength, but also because individual patients do not react to it in the same way.

Pituitary extract should not be administered by the nurse in the absence of the physician, who must not leave the patient after the latter has received a dose of it.

Foulkrod is emphatic in his assertion that the ampules at present offered hold too much of the active substance to be handled by the general practitioner, and that a whole ampuleful should never be administered by him as a standard dose.

The author is extremely guarded in expressing an opinion concerning the value of pituitrin as an oxytoxic, but he believes that it should be supported by some parturifacient of slower and more protracted action—ergot, for example. Still, he is very positive in declaring that pituitrin should not be resorted to unless the presenting part is definitely engaged in the pelvis and the largest diameter has passed through the plane of the inlet—and then only if the outlet has been measured carefully for any contraction of its transverse diameter.

In conclusion, it is stated, that there is a possibility of shock, on the part of the

mother, and also a possibility of danger to the child, particularly if the uterine contractions excited by pituitrin are sufficiently severe to cut off the normal circulation of the fetus, through some interference at the placental site.

ORGANIC EXTRACTS OTHER THAN PITUITRIN AS ECBOLICS

A highly interesting announcement has been made by Robert Haehler, of Vienna, in the *Zentralblatt fuer Gynaekologie* (1915, No. 51), provided his statement is verified by other observers.

Basing upon the results in 30 cases, as obtained in the Halbau Klinik, the author declares that the extracts of at least a considerable proportion of the different animal organs exert the same tonic influence upon the musculature of the gravid womb as does pituitrin; and he enumerates, thus far, the extracts of the thyroid, thymus, and bronchial glands, the spleen, ovary, corpus luteum, placenta, testicle, and mucosa of the small intestine.

Injected in the place of pituitrin, in retarded labor-pains, all of these organic extracts were found to be virtually equivalent to the former, in the power of inducing, strengthening or accelerating the expulsive uterine contractions in childbirth. This certainly would prove a valuable discovery, in view of the costliness of pituitary extract and the difficulty of its preparation.

NOTES ON THE USE OF PITUITRIN

In *The Virginia Medical Semi-Monthly* for February 25, Dr. M. P. Jones reports his experience with pituitrin, which he has used in delivering 4 primiparas and 10 multiparas. In 2 of the former, the result was good, the labor-pains being stimulated almost immediately and delivery taking place thirty-five to forty-five minutes after the pituitrin was injected. In the other 2 primiparas, the drug did not act as well, instrumental delivery becoming necessary.

In the 10 multiparas, on the other hand, labor in each instance terminated in less than twenty minutes. The labor-pains came on almost immediately and kept up as long as there was need of contraction. In each one of these women, there had been marked uterine inertia, with no prospect of an early termination of the labor, and the author regards the effect of the pituitrin as most remarkable. Although chloroform was given in a few instances, the author says that, strange as it may appear, the woman seems to be so taken up with the changed condition of affairs and the progress of the labor that she rarely says much or complains of the pains being unbearable.

In none of the 14 cases in question did laceration of the perineum or postpartum hemorrhage occur; in one case, however, extreme difficulty was experienced in delivering the placenta—owing, the author thinks, to the pituitrin. In one case of hemorrhage, this drug acted more promptly and satisfactorily than ergot.

Doctor Jones emphasizes that entirely satisfactory results are not to be expected from the pituitrin until dilatation of the os is well under way. It also is important to make sure that the position of the child is such as not to interfere with the delivery. While the field of usefulness of this drug in obstetrical work is somewhat restricted, it nevertheless is a most important one, and when indicated, the author is convinced, there is nothing else to equal it.

THE SYNERGISM OF MORPHINE AND SCOPOLAMINE

In view of the interest recently shown in "twilight sleep," some studies of the synergism of these drugs made by McGuigan, Ross, Smith, and Barbour—as published in the November, 1915, number of *The Journal of Pharmacology and Experimental Therapeutics*, are worthy of consideration. Details of these experiments we cannot give in these pages, for lack of space. It is interesting to note, however, that Smith has found morphine and scopolamine synergistic, both as regards action upon the heart and the respiration; in other words, the addition of scopolamine to morphine increases the slight toxic power of the former, as regards heart action, and the more decided toxic action upon respiration.

It is particularly interesting to learn that, according to Smith, scopolamine is the more dangerous of the two drugs. This conclusion is at variance with the commonly accepted opinion, that the real danger of the combination consists in the overdosage of morphine. This being the case, the Gauss practice of giving repeated doses of scopolamine to a single dose of morphine would not seem to be warranted.

According to Barbour, neither of these narcotics inhibits the activity of the uterus. Therefore, if they delay the progress of labor,

they must do so entirely as a result of their cerebral action. This accords with the testimony of those using the hyoscine-morphine combination largely, that there is no appreciable delay in delivery as a result of the use of these drugs.

The clinical testimony as to the value of this narcotic combination, *on the part of those who have used it extensively*, is still overwhelmingly favorable. The work of these experimenters, however, serves to emphasize the warning so frequently given in these pages, to avoid over-dosage. When hyoscine and morphine are used carefully, supplemented by a volatile anesthetic if prolonged or profound anesthesia is required, only the happiest results are to be anticipated.

TRANSPLANTATION OF FREE JOINT

Proofs of the practibility of transplanting free joints are multiplying, among these being such an operation performed by Doctor Ochlecker, of the military hospital at Hamburg (*Muench. Med. Woch.*, Jan. 4, p. 17); and, as reported to the local medical society, it is immaterial whether the organ is homo- or hetero-plastic. In the present instance, the proximal joint of the index-finger had become stiff following a bullet-shot. In its place, the author planted the distal joint of the corresponding forefinger of another man mutilated in combat. Healing proceeded perfectly, and functioning as well as radiographic control are stated to be "faultless."

ALCOHOL AND EPILEPSY

It is a well-established fact that parental alcoholism is an important etiological factor in the development of epilepsy in the children; in fact, many authors attribute to alcoholism even greater importance than to parental epilepsy. The percentages named vary, ranging, from about 15 percent of alcoholic heredity in epileptics observed by American physicians, to a little over 20 percent observed by German authors, and 50, even 60 percent of alcoholic heredity claimed by French writers on epilepsy.

While there is nothing surprising in the fact that parents afflicted with chronic alcoholism transmit to their offspring a vulnerability and instability of the nervous system, which frequently is manifested in the form of epilepsy, the assertion has been made that children conceived during a definite period of alcoholic intoxication, in parents otherwise not alcoholic, may suffer from the same curse; an assertion that naturally is very difficult of verification. It, therefore, is of interest to refer to seven observations mentioned by Dr. Matthew Woods, of Philadelphia (*Jour. Amer. Med. Assn.*, 1913, vol. lxi, p. 2291), of epileptic children one or both of whose parents had been under the influence of alcohol at the time of conception. The dates of the latter could be definitely determined in every instance, because the children were born either after the death of their fathers or during the latter's absence, conceptions having occurred on known dates and after which no further cohabitation took place. In all cases referred to, the parents were abstemious or total abstainers and they had indulged only on the isolated special occasions.

ATROPINE IN INFANTILE CONVULSIONS

In acute attacks of convulsions in children, but few rapidly effective measures at present, unfortunately, are at our command, and especially is this true for rural practice. F. Rascher, of Fischen in Allgaeu (Bavaria) writes in the *Muenchener Medizinische Wochenschrift* for January 4 last, in introducing an account of his favorable experience with atropine in one instance of this nature. Since library facilities were not accessible at the time, he confesses inability to discover just what has been done in this direction, and for that reason hopes that his contribution may give impetus to an extended trial of this therapy by others. We follow the salient features of the detailed report.

Doctor Rascher received a midnight call to attend a 3-year-old girl that had the "fits" bad. It so happened that he remembered an article contributed, by a Doctor Boesl, to the *Wochenschrift* (above named) in 1907, in which methylatropine hydrobromide had been recommended for infantile eclampsia. So, in default of that synthetic alkaloid, the author took along an ampule of atropine sulphate.

The prodromal symptoms in the otherwise robust child had set in at about 6 o'clock that evening, to be followed by a sudden intense eclamptic seizure, which reoccurred at short intervals in increasing and threatening severity. Because of the child's hot skin, a cool enema had been administered by the mother; then the Doctor was sent for. The anamnesis excluded, as the cause, worms, spoilt foods, and heredity.

The author encountered the patient in one of its attacks, with the extremities in clonic

convulsions of the highest degree, intense laryngospasm, and face livid. The pulse beat 140, the temperature registered 40.7° C. This attack lasted a few minutes; but, while the viscera were being hurriedly palpated, another seizure set in, so formidable that it was expected to terminate in death.

Boiled and cooled water already being held in readiness (ordered upon entering the residence!), the contents of the atropine-ampule (Gm. 0.001—1-64 grain) were diluted so that a syringeful represented 0.001 Grams (1-640 gr.) of atropine sulphate. This dose was administered hypodermically, without delay.

The result was astonishing. The laryngeal spasm ceased in about thirty seconds and the clonic convulsions let up after a very few minutes. Then the child involuntarily voided its urine, part of which was caught in a vessel. During the half-hour next following, the child's arms continued to exhibit a series of light convulsive attacks, but betweentimes the girl slept soundly and quietly. Three-quarters of an hour after the injection of the single dose of 1-10,000 of a Gram of atropine, the patient's temperature had receded to 38.5° C. (rectally), and when now she was put into a cool pack she scarcely roused, and instantly dropped off to sleep again.

The following forenoon the child was found playing in bed and was demanding something to eat. No further attacks had occurred (nor did afterward), while the temperature (rectal) registered 36.7° C.

The specimen of the patient's urine, mentioned above, contained a considerable amount of albumin; not, though, either blood, sugar or granular casts, or any epithelial cylindroids. Two days after the episode, the urine proved to be normal.

Subsequent inquiries did not elicit any possible etiologic factors for this attack, unless it be the exclusive use of boiled milk as the child's nourishment, and which might suggest vitamin-deprivation.

The Doctor Boesl referred to also had but one such case. Rascher expresses a preference for the methylatropine, as being considered relatively considerably less toxic than the natural alkaloid, and, hence, more adapted for use in children.

INFANTILE PARALYSIS: A REVIEW OF RECENT LITERATURE

The prevailing epidemic of infantile paralysis continues to occupy much space in the medical journals, and, as a matter of course, various modes of treatment are being suggested. Under the circumstances, an account of those therapeutic measures that appear to be best adapted, considering the nature and characteristics of the disease, seems advisable, and we shall preface this account by reviewing briefly what is known of its etiology and epidemiology.

It is unfortunate that the public has been impressed with the idea that the problems involved in the causation, development, course, and treatment of infantile paralysis are fully known; it would have been much better to acknowledge frankly our relative ignorance as to this disease, which, indeed, has been studied seriously for less than ten years. The medical profession should have admitted that there are numerous phases of the problem regarding which our information is very meagre and indefinite.

European writers display a predilection for the term of acute poliomyelitis, and F. E. Batten, declares in the London *Lancet* for April 15, that this term has now come into such general use that it is inadvisable to attempt to replace it. On the other hand, R. W. Lovett, of Boston, whose recent book on the treatment of infantile paralysis is reviewed in this number of CLINICAL MEDICINE, holds that the designation is an incorrect one, and arrives at the conclusion that infantile paralysis would seem to be the most available name for general use, even though it does not describe the condition correctly when it occurs in persons past childhood. The term preferred by Lovett is the one employed also by Doctor Flexner and other writers connected with the Rockefeller Institute, and, hence, will be adhered to in this article.

Reviewing briefly what is known concerning the nature and the manner of conveyance of the disease, the following may be said, abstracting a recent article of Doctor Flexner's, which has been reprinted in various publications.

The Epidemiology of Infantile Paralysis.—The virus of infantile paralysis is found in the central nervous organs and upon the mucous membranes of nose, throat, and intestines of persons suffering from the disease; it is found less frequently in the internal organs; it has not been detected in the general circulation of patients.

The virus is known to be discharged from the infected human body in the secretions of the nose, throat, and intestines. It is not known whether there are other ways of its elimination. The intermediary agency of insects in the distribution of the virus probably is of importance only in so far as flies or

mosquitoes may carry it from infected discharges to articles of food or as the insects may contaminate the dust which is inhaled.

Experiments conducted to determine whether blood-sucking insects may act as carriers of the infection have not given any definite results. (This probably is owing to the fact that infantile paralysis does not seem to be a bacteremia, the virus not being found in the circulating blood.) It must be taken into consideration that healthy persons or persons having but light (abortive) forms of the disease may carry and disseminate the virus.

It is probable that some domestic animals, notably poultry, pigs, dogs, and cats, have justly been suspected as possible carriers of the infection. Sheep, cattle, and even horses also have come under suspicion, although nothing definite is known in this respect.

As a rule, the virus enters the body by way of the mucous membrane of the nose and throat. It multiplies and then penetrates the brain and spinal cord by way of the lymphatic channels which connect the upper nasal membrane with the interior of the skull.

After it has been discharged from the body with the secretions and excretions, the virus may resist even the highest summer temperature, complete drying, and the action of weak chemicals such as glycerin and carbolic acid. The survival of the virus in the secretions is favored by the absence, more or less complete, of light, while bright daylight is unfavorable and direct sunlight destroys it in a short time.

The virus of infantile paralysis is destroyed more quickly and completely in the interior of the body than in the mucous membrane of the nose, throat, and the intestines.

In the spreading of an epidemic, the routes taken are those of ordinary travel, both by water or land, along the highways and railroads; in short, wherever infected persons remove themselves to they may carry the infection.

The susceptibility to the infection varies with the individuals; in general, children are more liable to be attacked than are older people; still, adolescents and adults to some extent fall victims.

The period of incubation, that is, until the manifestation of the first symptoms, has been observed to be as short as two days; at other times, it has been two weeks or even longer. Ordinarily it does not exceed eight days.

The danger of communication from patients, that is to say, their infectivity, probably is greatest during the very early and acute stages of the attack.

Infantile paralysis belongs to those diseases in which recovery from one attack confers immunity against another infection. Immune substances have been found in the blood-serum of such persons twenty years after their recovery.

The seriousness of the disease and of its consequences, and also the uncertainty attaching to our information concerning its actual nature and origin, has called forth the best efforts of clinicians and investigators alike. The New York Commissioner of Health recently extended an invitation to a number of well-known American pathologists and bacteriologists to meet in a conference, and by them a program was outlined for the study of all the connected unsettled questions. The researches which are being initiated in accordance with this program very naturally will require time, but we are confident that the cooperation among so many excellent workers will be productive of practical results.

The Treatment of Infantile Paralysis.—We have already mentioned Doctor Lovett's book on the treatment of infantile paralysis. The same author has given a very brief outline of the subject, which was published in *The Weekly Bulletin* of the Department of Health of the City of New York for August 19, and also in *The Monthly Bulletin* of New York State Department of Health for August. Copies of these bulletins can, undoubtedly, be obtained by requesting them.

The acute stage of the attack manifests itself by tenderness of the muscles, and it should be pointed out that the patient must be let alone while this exists, because massage and other manipulations, including electricity, at this time may delay recovery seriously. The patient must be kept absolutely quiet, and the administration of strychnine and ergot is not then advisable. Deformities may be prevented by keeping the feet at right angles to the legs, in order to avoid "drop foot." The knees should be kept extended. Lateral curvature of the spine must be counteracted by suitable posture.

When the muscular tenderness has diminished, it is desirable to place the patient in a warm salt-water bath, into which he may be lowered on a sheet once a day, and in which he may be able to move his limbs without pain. This is not desirable during the first days of the disease however. The treatment at this stage may be summarized as consisting in rest and in the prevention of deformities.

With the disappearance of the tenderness and of the acute process in the spinal cord,

therapeutic measures may be begun; but these should not be instituted in less than four or six weeks after the onset.

Doctor Lovett discourages permitting the patient to retain the recumbent posture for an indefinitely prolonged time. He encourages the upright position, as antagonizing the evils of the permanent sitting-posture and because the effort to balance on the feet stimulates a large number of muscles not otherwise to be reached. This is a valuable form of muscle-training.

It may be necessary to aid the patient in standing and walking by means of leg-braces. Crutches may or may not be required. If abdominal weakness is present or scoliosis exists, abdominal or spinal corsets should be worn. It is important to avoid fatigue. The muscles must be trained gently and slowly and must not be overstimulated. Four therapeutic measures should be considered during the second stage; namely: massage, electricity, heat, and muscle-training.

The chronic stage begins about two years from the onset and, as a rule, demands the services of a surgeon.

Drugs That May of Use.—Although it has been asserted that drug-treatment is not to be depended upon in infantile paralysis, Doctor Flexner makes mention of hexamethylenamine; this being the only antiseptic known that is carried into the central nervous system and which may be found in the spinal fluid. In early-stage cases, it has been found to be of benefit.

On general principles, Clinical Medicine before now has suggested timely and free resort to calcium sulphide, which has proved a remarkably efficient internal antiseptic in the hands of numerous practitioners. This suggestion we find supported by several correspondents to *The Medical World*. In the September number of that journal, Dr. O. E. W. Swan reports on her favorable experience with this drug in three cases. In two of the children, respectively 2 and 7 years of age, the disease was fully developed, and they recovered promptly and without being paralyzed. In the third one, the attack was arrested in its incipient stage.

In addition to these antiseptic drugs, adrenalin has been employed, first by Doctor Meltzer of the Rockefeller Institute, with very satisfactory results following its intraspinal injection. In a personal communication to Doctor Boyd (*Jour. Iowa State Med. Soc.*, Aug., 1916), Doctor Meltzer states that adrenalin positively does no harm in these cases, while, judging by an extensive experience in one hospital, it undoubtedly had a good effect; it caused all the paralytic symptoms to disappear.

Good results from the intraspinal injection of adrenalin-solution, in the strength of 1 : 1000, are reported also by Dr. Sydney V. Haas in *The Medical Record* for September 2. In 3 boys—6 years, 4 1-2 years, and 2 1-2 years of age, respectively—the existing paralysis was recovered from to a considerable degree. (Before injecting the adrenalin solution, Doctor Haas removed between 60 and 70 mils (Cc.) of the spinal fluid.)

In contrast with the results in these cases, the author refers to 5 others in which no intraspinal injections of this drug were given. Two of the patients died of respiratory paralysis, and one had a spastic paraplegia of both lower extremities after six weeks; but one has recovered completely.

Doctor Haas concludes that, in the light of present knowledge and experience, the ideal treatment consists in: (1) early lumbar puncture and withdrawal of spinal fluid; (2) administration of adrenalin intraspinally; (3) the immediate introduction of immune-serum or, in its absence, of normal serum.

The Serum-Treatment.—It has been demonstrated experimentally that the serum of patients who have recovered from an attack of infantile paralysis possesses the power to destroy the virus in the test tube, but that this immune-serum is incapable of preventing the development of the disease when it is injected simultaneously with the virus or after its injection.

Intraspinal injections of an immune-serum are effective in the preparalytic stage, in delaying and preventing infection in monkeys. It has been employed with success in cases of the ascending type.

Serum obtained by venipuncture from persons who have recovered from the disease is injected into the spinal canal after a corresponding amount of the intraspinal fluid has been abstracted, usually about 10 mils (Cc.). While the technic of the treatment is easy, there is decided difficulty in finding a person having recovered from infantile paralysis and who has already been successfully subjected to the Wassermann test, and who moreover, is willing to donate the necessary blood.

It is useless to carry out the treatment when the disease already has become quiescent, the more suitable cases being those that (1) present symptoms of an ascending or progressive disease; (2) that present meningeal

symptoms; (3) that are in the preparalytic stage (provided the diagnosis can be made).

The experiences with the injection of immune-serum for purposes of treatment have been misinterpreted, it having been stated erroneously that spinal fluid obtained by lumbar puncture from a patient ill with infantile paralysis might be used to advantage by subcutaneous or intramuscular injection in the same patient. This method would constitute an autogenous therapy, as it was introduced first for the treatment of pleurisy with effusion, by the French physician, Gilbert.

Doctor Meltzer (*N. Y. Med. Jour.*, Sept. 2) deprecates this procedure, claiming that it is dangerous and inadvisable to inject into the organism a fluid containing the living virus. On the other hand, he encourages the treatment of patients by means of the serum from persons who have recovered from the disease, in which living organisms no longer are present. (In regard to this, see also Flexner, *Jour. A. M. A.*, Aug. 19, p. 583.)

Speaking of this method of passive immunization, an editorial in *The Medical Council* for September suggests a modification, in so far as the supply of such immune-serum (the amount of which naturally is limited and insufficient for the treatment of all existing cases), should be used to sensitize autogenous bacterins prepared by the method proposed by Wohl (*Amer. Jour. Med. Sciences*, Aug., 1916), and the sensitized autogenous bacterin should then be injected into the theca vertebralis, in accordance with the technic advocated by Batten, in his article in *The Lancet*.

The Prevention of Infantile Paralysis.—In view of the insidious distribution and onset of infantile paralysis, on account of its non-characteristic mode of attack and of its destructive effects on the central nervous system, some authors think it unlikely that any effectual remedy other than prevention will be found for this disease. Since the virus is known to exist in the nasal and buccal mucous membrane, it is essential to pay careful attention to the discharges therefrom, both in order to counteract the further extension of the disease in a given case and to prevent its dissemination. For this purpose, Doctor W. S. Whittemore, of Boston (*Boston Med. and Surg. Jour.*, 1916, Aug. 17) urges the use of kaolin powder, as a prophylactic measure, in the case of every child or adult who has come in contact with any possible source of infection with infantile paralysis. He refers to a report published by Hektoen and Rappaport, in *The Journal of the American Medical Association* (1915. vol. 64, p. 1985), on the successful use of insufflations of kaolin powder into the nose for the purpose of removing bacteria from the nasal mucus. Doctor Whittemore employed this method first on himself and in members of his family, then in his private practice, in the treatment of coryza and tonsillitis, with the result that apparently it cured these infections promptly; while, besides, it was not irritating; but, on the contrary, distinctly soothing. He believes that *kaolin insufflations* would prove useful in *preventing the localization of infection with the virus of infantile paralysis.*

In view of the fact that infantile paralysis is an acute specific fever, with an incubation-period of four to twelve days, it goes without saying that the patients should be isolated. Nevertheless, it appears that the danger of communication from person to person, or the infectivity of a given case, is not very great, providing the discharges are disinfected properly. Furthermore, in hospitals, it is not necessary to place the patients in separate wards, bed isolation being considered sufficient to prevent the infection of others. It is clear, however, that, unless suitable precautions are taken with respect to the infectious discharges, the virus will be disseminated from any given patient, so that the sole means for adequate control seems to be compulsory hospitalization at the earliest possible moment. Drs. A. L. Hoyne and F. E. Cepelka (*Jour. A. M. A.*, Aug. 26) believe that an isolation-period of three weeks from the date of attack probably is sufficient to remove the further possibility of infection.

In the same number of *The Journal*, Dr. A. Sophian asserts that quarantine of the sick should be urged and that, at least for the present, it should cover the probable period of the acute disease, about eight weeks. Since the disease is disseminated along the course of human travel and intercourse, it is important to extend the quarantine-measures in this direction, and include virtually all children under ten years, who may come from cities in which the disease is actively epidemic. It is also considered wise to remove all patients from their homes and establish them in special hospitals.

Since early diagnosis and the diagnosis of abortive cases are of particular importance, cooperation of the medical profession is urged for the early reporting of suspected cases, which then are to be investigated by a diagnostic committee composed of physicians especially trained for the work.

Miscellaneous Articles

Some Cases of Hysteria. Apomorphine in Emergencies

THE articles on hysteria, printed recently in this journal, remind me of a few of the many similar cases that have occurred in my practice of over forty years.

A man came into my office and said, "Doctor, I want you to go and see my daughter-in-law."

"What's wrong with her"? I asked.

"I don't know, but she has sinking-spells, and I am afraid she will die, and I want you to see her at once."

"Has she had any other doctor?"

"Yes, Doctor M."

"Well, send him around, and I will go, but not without him."

On the way to the patient, who lived in the country, I asked the doctor as to the trouble in question. "I really don't know," said he. "I attended her in confinement about ten days ago. Labor was normal, and there was no trouble either then or since referable to her confinement."

"Previous health?"

"Good."

"How long married?"

"Well," said he, "there is a pointer. She has been married only about five months and her husband knew her only about a month previously; so, putting it all together, it can scarcely be claimed that he is father of the child and I presume they had some sort of family rumpus as to its paternity a few days after its birth. Since then she has attacks of seeming collapse, during which she apparently is dying, but gradually recovers."

I found the sick-room full of sympathizing friends, among whom was a near relative of mine living in the vicinity, and through whom I had previously learned something about this case. I looked at the baby, a well-nourished, healthy "kid," apparently born at full term. I found that the mother nursed it and had milk to spare. The patient, a large, well-nourished young woman, was lying in bed, apparently asleep. Her pulse was slow, soft, and full; skin, moist and cool; no distention or tenderness of abdomen; bowel acted freely; kidneys were active; no suppression of the lochia; no trouble with the breasts. During my examination (and I was not overgentle about it), she did not arouse nor would she respond to my efforts to attract her attention; but she resisted attempts to open her mouth or eyes.

Beckoning to her relatives, we retired to another room. I asked her husband whether he had had any trouble with his wife? He replied in the negative, but rather hesitatingly. Upon further quizzing, he admitted that they had a "talk," which ended in a fit of crying on the part of the wife and mother, and that the "spells" had occurred subsequently to that day.

"Well," said the mother-in-law, "what is the matter with her?"

"Nothing but hysterics," I replied. The woman bristled up like a sitting hen and went for me with all the vigorous language at her command, ending with the statement that the patient would surely die in one of the "spells."

"All right," I replied, "but she won't; and Doctor M. will bring her out all right."

Here my relative interposed: "Doctor, I think you must be mistaken, you ought to see her in one of her spells."

Just at this juncture a sister came out and announced that the patient was going into a "spell." It hardly is believable what a change had occurred in the woman during the brief space of time we had been away from her. Her face was pale and covered with a clammy sweat, she was pulseless and there was only a flutter of respiration; head was retracted, eyes were rolled up, hands were clenched and her whole body was rigid; and, except for this rigidity, she was in a condition of collapse. A bottle of medicine, which I had been informed was a bromide-mixture, stood on a stand near by. I tried to put a

spoonful of it into her mouth, but she blew it into my face; thus convincing me that she was not unconscious. I then asked Doctor M. for his chloroform-bottle, then poured a little of it on a handkerchief and held it to her nose. At the first whiff, she relaxed her rigidity and cried out, "You will choke me!"

"Why, Kate," said her sister, "you won't choke when you can cry that way."

"Will you take your medicine?" I asked.

"Yes," she answered, but blew it out when I attempted to give it. I again administered the chloroform, then, in spite of her struggles and screams, aided by her husband, who held her hands, I put her to sleep. I then departed with the recommendation to use the chloroform whenever she began to have a "spell."

About two weeks afterward, I met the father-in-law and inquired about the woman. The volume of profanity that my inquiry evoked made me question as to whether I was in hell or in Texas.

"Well, any more 'spells?' "

" 'Spells'—hell no! You were right, doctor, nothing but hysterics." A domestic rumpus and a desire for sympathy was the cause of the whole trouble.

Another time I was called one night to a "beehive" tenement, to see a girl in "fits," found a girl of fifteen or so and a room full of people. Heard a history of suppressed menses. Two doctors had been to see her during the day and had left in disgust. In examining her, she made a grab for my throat and brought away my necktie and collar. I responded with a vigorous slap across her face, whereat she looked surprised, then turned over, began to whimper and went into a fit, which required two persons to hold her on the bed. I administered chloroform and put her to sleep. I left a little of the latter with her brother, with instructions to use it as needed to control her "fits." Met the brother the next day. "Any more fits?"

"No," he replied, "she began one, but quit when I got the chloroform. But she says, 'damn that doctor, I'll slap him in the face if ever I meet him on the street.'" But she never did.

At still another time, I was called in consultation by a country doctor. I found his woman patient had hysteroepileptic convulsions. Her doctor had been keeping her under the influence of chloroform for several hours, but the attacks would recur as soon as she revived. I recognized the patient as one with whom I had had some previous experience, and, so, advised a hypodermic dose of apomorphine. This was given, and, it got in its work promptly. After thorough emesis she went to sleep and no more convulsions occurred.

Speaking of apomorphine, I will say that it is a sure remedy when needed, and I never am without it. A messenger called me one Sunday to a young man who had swallowed a dozen 1-8-grain morphine pills. He had just eaten a hearty dinner, quarrelled with his girl, and decided he would shuffle off this mortal coil. A few of the pills left in the box showed them to be gelatin-coated and very hard and dry. He protested that he did not want to live and would not take anything. But I gave him a good-sized injection of apomorphine. Directly he rolled over on the bed, thrust his head out of the window and "whooped up" his dinner and with it the undissolved pills. He changed his mind and concluded that he would try to endure the ills of this life a little longer.

One night I was called to see a young man who had a "stroke." I found a vigorous, healthy young fellow, who had been helping a neighbor, at threshing, had worked until dark, ate a hearty supper, came home tired and went to bed. Later the family, hearing him groaning and tossing on his bed, found that they could not arouse him from sleep, He had a hot, dry skin, a slow, tense pulse. face was congested, eyes were suffused, and he was restless and apparently unconscious. There was no paralysis. I reasoned as follows: Man tired, hearty supper, no digestion, fermentation, autointoxication. I gave an injection of apomorphine and got a slop-bucket ready. He soon half filled the bucket with a sour mass that would have disgusted a pig. I made him drink water until he had washed out his stomach, and vomiting ceased. He looked around and asked, "What in hell is the matter?" "Nothing at all," I replied, "Go to sleep." This he did, and was all right the next day.

E. H. King.

Muscatine, Ia.

SULPHUR IN THE SOCKS: AN EXPERIMENT

Place a silver matchbox or small spoon in your upper vest-pocket. Place a teaspoonful of powdered sulphur in each shoe for three days. On the fourth day, look at the silver. Then you might write a little article for The American Journal of Clinical Medicine explaining what you have seen.

How long has the present writer used this treatment? Do not recollect. Perhaps Dr

Charles Bell White will be able to recall the date when he said harsh things because his thermometer-case and other similar articles went to the bad. That was sometime prior to 1895. And the present writer had a long experience with the sulphur before recommending it to the Doctor.

Douglas H. Stewart.

New York, N. Y.

[Doctor Stewart suggests the preceding when "The salicylates or alkalis do not appear to be showing the results that they should." He adds that the method proposed is a powerful adjuvant to any plan of treatment for the rheumatic, but, in itself "not a plan of treatment."—Ed.]

'HEART FAILURE" OF THE AGED

The prevalence, during the early spring, of sudden collapse among the aged is becoming a problem of considerable moment to the medical profession here as well as elsewhere; moreover, it appears to be a malady not yet thoroughly understood. Within the past five weeks, there have been twice as many cases within the scope of my immediate acquaintance, and of these four proved fatal. In every instance, the victim was past fifty years of age, while in the fatal cases all were above sixty-five. In everyone of them, there was a variable period of unconsciousness or semi-consciousness attending and following the attack.

The patient is usually attending to his regular business and apparently in normal health. The attack comes on without any prodromal symptoms or aura. The symptoms are described as follows: a feeling of intense weakness; loss of sensibility; impairment and sometimes complete loss of vision; coldness of extremities; a feeling as if the heart had stopped. The subjects look pale, to lividness, the condition resembling (and really being) a form of syncope; they either fall or quickly assume a sitting or recumbent position; their mind is either distracted or a complete blank for a variable time, this often lasting until the morning after the attack; the heart is extremely weak; the skin is moist with a cold perspiration; sometimes there is nausea and vomiting; the tongue is dry, flaccid, and coated with a brownish-white slime; respiration is slow, feeble and shallow; the skin is muddy, icteroid, but often of a peculiar cyanotic hue; the victims are—as they look— seriously ill.

Recovery is usually slow, but, if the termination is fatal, it comes quickly and easily. Thus, in one case that came under my observation, the victim, a farmer of 68, died sitting in a barber-shop; he was waiting his turn to get shaved. He never moved a muscle or uttered a word; he simply laid his head back against the wall and seemed to have fallen asleep.

The physical condition of the patients suggests the name "cardiac inertia." But the agencies operating to produce the inertia are still a matter of some speculation, although it seems quite reasonable to class it among the autoinfections. Such a condition, it is reasonable to assume, would result from the accumulation of toxins in the system following the sluggish elimination by the skin throughout the cold season.

I should like very much to hear the opinion of readers of this journal upon this altogether too prevalent malady. Thus far, my treatment has been entirely upon the line of indications—eliminants, stimulants, tonics, and hygienics.

Lewis W. Spradling.

Athens, Tenn.

AN OPENING IN MICHIGAN

There is an excellent opening in Michigan for a good general practice in a live town. Write us and we will give you details.

THE ERRORS OF THE MALE MENOPAUSE

It is quite true that men with certain inherited tendencies break loose after middle age and do things that shock their friends and neighbors. Their conduct, however, rarely surprises those who know them intimately and have been familiar with their private lives. Their "sudden lapse" is merely the culmination of a series of processes, mental or motor, that have led up to the catastrophe.

The tree falls or the foundations give away "suddenly." But only apparently so. There has been going on a loosening for some time and everything was logically ready for the break. Little by little such men have "gone bad," whether in business, domestic life or personal habits. The end may be spectacular for the public, although being only the expected outcome of daily thought and leaning.

Good men do not go bad suddenly. Go back to their early days; find out what sort of boys they were at home and in their com-

munities. Follow them out at college among their fellows. What was their example there? Then into active life in the first town in which they began work. What did they do there? Learn with whom they associated themselves; what side have they taken in community-matters? What has been their attitude, throughout, toward women, and their treatment of them? What do their wives say, and their intimate relations?

These remarks are suggested by a certain article appearing in *The Phœnix*, one which indicates close insight into character.

Although we may not agree entirely with the deductions of the author, we must say that a large part of his assertions are true.

The passions make trouble for us during the greater part of our lives, and it may be true that, in a sense, they are themselves the deepest potential proof of life.

It is a common error to suppose that the most tragic and violent effects are limited to youth.

No, it is not youth that furnishes the darkest, the most fatal and convulsing drama of passion, but rather that period of life which we call middle-age—the period beginning, in man, at the forty-fifth, and, in woman, at the thirty-fifth year.

This condition is one that calls for the fullest understanding, a psychological as well as physiological explanation.

The malady of false youth is largely induced by the fear of age, with consequent loss of power of pleasing the opposite sex. It may be that such fear is stronger in women than in men: the reserve which women maintain on the subject and the mystery with which it is enveloped yield no positive clue.

False youth comes to both, and for the woman no less than for man it is potent to tear up the rooted sacred ties of life, to flout the honor of marriage, corrupt the innocence of childhood, and turn the sanctuary of home into a romping-place for devils!

This tendency or weakness or perversity is not universal, by any means, and I am inclined to doubt its prevalence among women to a large degree. There are abnormal cases, of course, but, as a rule, women who are married need no watching. They are true to one man. Even extreme domestic unhappiness may not drive them elsewhere.

With men, it is different. The best qualities of a man's virtue may lead him away from those who make him unhappy—even from the bonds of wedlock—to where he can love and be loved. And such a feeling the world understands and condones. If he defies conventions and ignores law, it is different. He may not do this. So, Roosevelt said the other day, "I can forgive most of the purple passions in men"—but not brutality or bigamy.

Unkindness, ingratitude, lack of charity and pity, inexorable inhuman hardness, revenge, vengeance, the desire to "get even" are the real sins of men, not errors of conduct or judgment based upon an expression of love or human passion.

E. S. Goodhue.

Holualoa, Hawaii.

THE PREVALENCE OF INFANTILE PARALYSIS

From *The Weekly Bulletin* of the Department of Health of the City of New York, we learn that up to September 7 the epidemic of anterior poliomyelitis in that city had claimed a total of 8389 victims, 2074 of whom have died. These cases were distributed as follows: In Manhattan there were 2321, with 542 deaths; in the Bronx, 515, with 126 deaths; in Brooklyn, 4345, with 1064 deaths; in Queens, 1029, with 289 deaths; and in Richmond, 279, with 54 deaths.

The latest available statistics covering all cases of infantile paralysis reported from the rest of the country we find published in *Public Health Reports* for September 1. In Illinois, for instance, 355 cases were reported between July 1 and August 26, with 31 deaths. (Of these cases, 122 occurred in Chicago between June 18 and August 26.) New Jersey reports the greatest number of cases of any state, except New York, a total of 2478 having occurred between July 1 and August 28. Philadelphia reported 383 cases between June 26 and August 26; Jersey City, 126 cases between July 2 and August 26; Newark, 955 cases between July 18 and August 19; Toledo, Ohio, reported 78 cases between June 18 and August 26. (According to population, this city has suffered relatively more severely from infantile paralysis than any other in the West.) Quite a number of cases were reported from Minneapolis and St. Paul; to be exact, 42 in Minneapolis between July 30 and August 26, and 40 in St. Paul between July 2 and August 26. Scattering cases are reported from many other places.

It is a pleasure to be able to say that at the present time there is a very general decline of the disease all over the country, and probably by the time this number of Clinical Medicine reaches its readers the epidemic will be

practically at an end, although, of course, a good many sporadic cases are sure still to occur, while the possibility of winter epidemics must not be lost sight of.

THEIR FIFTIETH ANNIVERSARY

We have just received from Mr. Harry Skillman, advertising manager of Parke, Davis & Co., a beautifully illustrated and printed Jubilee Souvenir, telling in modest language of the fifty years of service of that house, which is celebrating its fiftieth anniversary on October 26th.

The Jubilee Souvenir is a work of art, ably written, thoroughly in keeping with the clean-cut character of the great institution whose achievements it records. CLINICAL MEDICINE extends its heartiest congratulations to Mr. Frank G. Ryan, president of Parke, Davis & Co., and to every member of his brilliant corps of assistants.

EMETINE IN INTESTINAL CANCER QUININE IN TONGUE CANCER

There are few enough specifics in medicine and, therefore, it is natural that when we find a drug which, like emetine, possesses absolutely certain curative action in amebic dysentery, we should try it in other diseases, in the hope that it may prove specific in more than one respect. Thus, emetine now is being used in typhoid fever (Frazier) with, it is averred, most wonderful results.

I myself have given alcresta ipecac (a compound of ipecac with fullers' earth—which latter prevents its nauseating action) in the ordinary enteritis, where there was no suspicion of amebiasis, and apparently with excellent effect. More recently, after having read about the employment of emetine for hemostasis in the hemorrhages of pulmonary tuberculosis, I decided to try alcresta ipecac in cases of intestinal cancer, with almost continuous capillary hemorrhage.

Before going on with the subject, I want to say that I live very far from a laboratory where a microscopic examination of cancerous tissue might be made; so, therefore, when I say cancer of the intestine, I mean that several of us country practitioners, after a thorough examination and the exclusion of any other cause, decided upon this diagnosis in the cases in question. Also, I may mention that so far we have tried the alcresta in only two cases, but in these we were reasonably certain of our diagnosis.

In both of these cases, the subjects were elderly women in whom cachexia was markedly present when first we saw them. Both were greatly exsanguinated from the daily passage of feces that were of a tarry aspect, and each had a painful tumor plainly palpable and giving almost continuous pain, unaffected by the intake of nourishment. Both women have been under the treatment indicated for the past six months, and both have had much less pain, have a better appetite, less hemorrhages, and more strength. At first I gave them emetine hypodermically and then, on account of these patients' objection to the needle, the alcresta ipecac internally. When, one time, about three months ago, I was unable to obtain these tablets, the pains and hemorrhage returned. Fortunately, I got some more of the drug after a few days, and the symptoms ceased upon its resumption. I could find no amebias in the stools of either patient.

On several occasions I have found that in inoperable cases of cancer of the tongue applications of gauze saturated with a strong solution of quinine to the ulcerated cavity would check the pain and the discharge, and even seem, for a time, to arrest the tumor's growth. Possibly, since, as I understand, emetine is an alkaloid of a composition not unlike that of quinine, it may be possible to find in its use an alkaloidal treatment of cancer. In the meanwhile, I should like to know whether anyone else has had any experience in this direction.

A. K. MOILLIET.

Minatitlan, Vera Cruz, Mexico.

[We have heard of some cases of undoubted cancer in which really remarkable improvement followed injection (subcutaneous) of large doses of emetine hydrochloride. The alkaloid has been employed in this way by a prominent Chicago surgeon in one hospital in this city. We are not prepared to indorse this treatment, but we should like to see a careful investigation of it made. We welcome these reports, and thank Doctor Moilliet for this story of his experience.—ED.]

MYRRH AND QUININE FOR CHRONIC MALARIA

In 1898, I wrote a short article on the use of myrrh for the treatment of malarial fever, which was published in *The Medical Record* for August 20. The fact that this article was published so long ago and the further fact that I get such good results from its use, as do dozens of other doctors who have

used myrrh in malaria, at my suggestion, is my excuse for again calling the attention of the profession to the use of this drug, in conjunction with quinine, in the condition named.

As I said in the article referred to, I do not claim to have made this discovery. Let me state how I first came to use it.

Dr. Wm. H. Ribble Sr., of Wytheville, Virginia (died several years ago), said to me, on one occasion, that he would tell me how to break up any attack of malaria, and then proceeded to tell me the following story.

As one day he was jogging along a country road in Nelson County, Virginia, some twenty years before, he was joined by a Methodist circuit-rider. When the old preacher learned that Doctor Ribble was going to visit a man having chills and fever, and that in spite of the large doses of quinine and all his treatment the man continued to have chills, the old gentleman then said: "If you promise not to tell anyone, I will tell you what will cure your man." And this was his prescription:

Mix 40 grains of quinine, 20 grains of myrrh, and 10 grains extract of licorice, and make into 10 pills. Take one pill every two hours, until all are taken. That was all.

As the old man rode off, he repeated: "The chills will stop, and your man will have no more."

Doctor Ribble told me that he followed the preacher's directions, and, sure enough, the patient promptly got well. He now had been using the same prescription for over twenty years and always with the same good results. He added that he supposed the old fellow was dead by now and that he hardly committed a breach of confidence by telling his secret now, after twenty years had lapsed.

After this conversation with Doctor Ribble, I began the use of myrrh and quinine, writing for 40 capsules, each containing 1 grain of bisulphate of quinine and 1-2 grain of powdered myrrh, the patient to take 1 capsule every two hours from the time he awoke in the morning until bedtime. And I always effected a cure. The licorice, of course, has no virtue, being used simply as a binder to hold the myrrh and quinine together, so as to make the pillmass.

I was desirous to know in what way myrrh could be of benefit in malaria, so consulted a number of materia medicas as to the action of myrrh, but with little or no satisfaction. Finally, in a little book, namely, Bing's "Elements of Therapeutics," I found the statement that myrrh given internally increases the number of white corpuscles of the blood fourfold. Now, we are told that the leukocytes are the scavengers of the blood; so, if myrrh increases their number, the malarial plasmodia are more readily exterminated.

I am convinced that small doses of quinine given at short intervals are more efficacious than large doses at long intervals.

It may be—though I confess it is a rather farfetched idea—that the reason why the ancient Egyptians were cured of their various fevers and other illnesses by going to the temple of Isis and praying a week or more to this goddess, was because of the fact that myrrh was continually burning on the altar. As a consequence, the votaries plentifully inhaled the fumes of myrrh and thus received its physiological effects.

Aaron Jeffery.

Newport News, Va.

PELLAGRA: ITS CAUSE AND CURE

After ten years of diligent study and careful investigation, I have reached certain definite and dependable conclusions as to the cause of pellagra, also as to the treatment and cure of this disease, which is one of the grave diseases to which America has fallen heir from the Old World. Before describing my rational method of treatment, I will recite the following conclusions.

1. After caring for hundreds of pellagra patients, I have demonstrated that over 85 percent of these, as they come to the general practitioner for treatment, can be cured, so that they will stay well.

2. Regulated diet alone, no matter how well selected, will not effect a cure, except possibly in a very few instances.

3. The primary cause of pellagra has not as yet been found. It is not true that an unbalanced diet, as some claim, is wholly responsible for the disease.

4. Pellagra is transmissible from person to person in a rather slow and unusual way. A close study of cases in private practice indicates that long intimate contact with these patients is, probably, one of the greatest factors in this transmission.

It is my personal opinion, amounting to a strong conviction, that the toxic manifestation in pellagra is the result of deranged functioning of the ductless glands.

As to treatment, I have found the most gratifying results are to be obtained by those curative measures which act both directly and indirectly. The following remedies are

suggested as the most valuable of the corrective class.

Arsenic. This, in the form of sodium cacodylate, has given me the most satisfactory service in hundreds of cases of pellagra during the past ten years.

Gold. This, in the form of solution of gold and sodium chloride, is given both by mouth and subcutaneously. I regard this preparation most indispensable. A double effect is secured from it, in that it, besides being promptly curative, also is a nerve tonic and calmative. Patients suffering from mental aberration or dementia have been permanently cured with the solution of gold and arsenic bromide.

Nuclein and protonuclein. These two preparations are given in tablet form by the mouth, or in solution hypodermatically. I am convinced that the tissue metamorphosis is materially increased by their use. It is quite likely that the beneficial effect is direct as well as indirect.

Cooper's well water. In my experience, this natural mineral water is a valuable and dependable dietetical aid in repairing the ravages produced by pellagra. It acts mainly as a direct corrective, and probably acts indirectly also. The same may be said of chloride of sodium, when properly used.

The following is a list of the indirect correctives: Cooper's well water, digestive ferments and enzymes, hydrochloric acid, a well-selected dietary, the very best sanitation and hygiene.

In the care of pellagra-patients, as is also true of tuberculosis, it is extremely important to observe how, when, and what the patient should be fed. The chief aim should be, to eat as fully at the three regular meals as the condition of the digestion will permit, masticating slowly and thoroughly, keeping the mind free from all fret and worry during the period of eating and digesting the material.

At 10 a. m. and 3:30 p. m., the patient should take one or two glassfuls of whole sweet milk, into each of which has been stirred a tablespoonful of lime-water. A liberal quantity of well-buttered toast or wafers may be supplied with each glass of milk. If a change is desired, two raw eggs may be substituted for the toast, wafers and milk. This full, forced feeding is one of the most essential things to consider in treating any case of pellagra. The benefit secured by a patient suffering from this disease comes in the same indirect way and through the same physical channels as in the case of tuberculosis.

The following list includes articles of food mentioned in the order of their importance and constant availability as well as of their nutritive and therapeutic value.

Fresh beef, good quality. Raw, scraped, as sandwiches; rare steak or roast. These stand easily at the head of the list; even when thoroughly cooked, beef is valuable.

Milk. Plain, with lime-water, carbonated or peptonized; cream; buttermilk. These come next in importance to fresh beef, in being constantly available as well as in food value.

Eggs, whole or white only. Boiled, poached, in omelet, or raw.

Fresh fish. Boiled, broiled or baked.

Oysters. Raw or cooked.

Game or wild fowl, whenever obtainable, are especially beneficial.

Vegetables, in season. Beans and peas may be preferable, on account of their similarity in food content to meats.

Fruits, if fresh and ripe, may be taken as desired, but not at times when they will interfere with the ingestion of more important articles of diet.

Nuts, wild or domesticated, seem to be especially good. The pecan is obtained most readily here in the South and is equal or superior in food value to any other. Great care should be exercized to masticate nuts very thoroughly, else digestive disturbance will result and thus harm rather than good be done.

Bread and cereals, any kind desired, may be eaten; but bread made from whole wheat or graham flour is best, unless the bowels are too active, in which case rice, white bread or toast should be selected. Best of all, though, I have found, are corn-pone, egg-bread, egg-bread muffins, and cornmeal hoe-cake, all of which are palatable and efficient in a nutritive way, if made from home-grown, home-ground, and home- or hand-sifted cornmeal made from *live grain*, that is, corn with its germinating power and properties and chemical vitality undestroyed or undisturbed by any process, be it heat, kiln-drying or other procedure.

For a bread to serve its full purpose as a nutrient material in the human "gristmill," or body, it must of necessity have in its entirety that vital chemical constituent by which, under the proper conditions in the soil and at the season, it can and will germinate, develop and reproduce itself. This property or germinating-power in the grain from which our bread is made feeds, stimulates, and vitalizes the highest function in the animal organism fed by it; this is beyond

question. All this is as true of the breads and breakfast foods made from wheat or any other grain, as it is about corn.

Drinks. Pure, fresh water, whole sweet milk, fresh buttermilk, either with or without cream, egg-flips, hot cocoa or chocolate. It is important that neither coffee, tea, coca-cola nor stimulating narcotics are taken.

L. H. Howard.

Jackson, Miss.

POISON-IVY AND RHUS-DERMATITIS

Some good advice regarding the treatment of poison-rhus dermatitides is given in *The Journal of the American Medical Association* for September 2 (p. 763). In answer to a query, the editor makes the following statement:

"It has been shown that the poisonous constituent of the poison-ivy is neither volatile nor water-soluble, the popular belief to the contrary notwithstanding. Instead, the poison exists in the form of a thick emulsion, which readily sticks to the hands and clothing and which under certain conditions may retain its activity for months or years. The great abundance of poison-ivy makes it easy for the clothing to become contaminated with this emulsion without the knowledge of the wearer, so that poisoning may take place at any time.

"After the symptoms appear, the sufferer may remember that two or three days previously he had walked near some of the toxic plants, but knows that he did not touch any of them. He assumes, therefore, that the poison must have reached him by passing through the air. Then, too, there are a large number of plants which are reported to have occasionally produced poisoning like that from rhus, so that it is probable that in some cases of supposed poisoning without contact the victims may have encountered some one of these, rather than one of the rhus species. It was formerly believed that the rhus-poison existed in the pollen and in the minute hairs of the plants. Alighting on the skins of sensitive persons, especially if the victims are perspiring, the pollen-grains or hairs are not easily rubbed off, and it was assumed that poisoning might result. Many cases of poisoning without known contact with the plants were accounted for in this way, until it was shown by indisputable chemical tests that neither the plant-hairs nor the pollen-grains contain any of the poison.

"Since the poison is soluble in alcohol and in alkalis, the best preventive of poisoning after exposure is, to wash the parts with alcohol or with alcohol containing a little dissolved sodium hydroxide. In absence of alcohol, gasolin may be used. An aqueous solution of an alkaline soap is effective. An aqueous solution of sodium bicarbonate is less effective, but is useful."

MORE CASES OF LIGHTNING-STROKE

The two cases of lightning-stroke to be considered here present features of interest and value and call for scientific consideration.

Case I. A man had to cross a small stream in visiting a near neighbor, and pending his stay at the latter's home there occurred a severe thunder-storm, during which the man was supposed to have been killed by a stroke of lightning. His neighbors placed him on his back, in a spring-wagon, on a bed of straw and started to take the supposed corpse home. In passing over the stream of water, which was now swollen so that the water came up over the "dead" man's body, the latter, to their amazement, arose and demanded to know what they were doing with him there!

Now, what was the therapeutic action of the water? Should such victims be placed in cold water? But, do not overlook the lungmoter, friction, atropine, glonoin, and strychnine, and heat to the extremities.

Has there ever occurred a similar case?

Case 2. This case resulted in more ultimate good than damage. I had a two-story house on high ground in Kansas City, Kansas. It was occupied by four persons. The woman of the house had been badly afflicted with inflammatory rheumatism, being confined to bed much of the time. Improvement had taken place, so that she was able to take her place at the dining-table. One morning she and the others had seated themselves at the breakfast-table when lightning struck the chimney, shattering it badly and setting fire to the shingle roof. Part of the stroke passed the tin spouting to the cistern. The other part of the current passed down the flue to a stovepipe-hole in the dining-room and thence diagonally through the room over the heads of the party at the table and then to an outside porch, where it melted the wire screen and did other damage.

The rheumatic woman arose from the table entirely free from her affliction—and has remained permanently cured. No shock was experienced by others of the party.

I have personal knowledge of the fact in this case. We certainly have something to

learn as to the action of electricity upon the human system.

I never heard of a similar case. But there may have been others. I once saw an electric-line-man who became entangled in a coil of live wire. He told me that while in that condition he could hear every click and sound of the machinery in the power house—which was a mile distant! He acted the part of a telephone receiver.

C. E. Witham.

Lawrence, Kan.

STILL ANOTHER CASE OF LIGHTNING-STROKE

The articles printed in Clinical Medicine regarding persons struck by lightning recall a case of this nature that occurred in my own practice.

On August 11, 1914, a young man, about 21 years of age, was working in a hay field in company with several other men, when an electrical rain storm came up, and they took shelter in hayshocks. Running from one shock to another and, just squatting to get in under the hay, this young fellow was struck by a discharge of lightning. He was picked up for dead, but, showing signs of life, he was vigorously rubbed for a few moments by his companions and then hauled home.

When I was summoned I found him in a state of shock, collapse threatening—stertorous breathing, pulse almost imperceptible at the wrist, pupils dilated, blood exuding from the right ear, nose and mouth. Death seemed imminent.

He had received the stroke above and posterior to the right ear. There were two spots of about the size of a silver dollar where the hair was burned as close to the scalp as if it had been cut with clippers, and the burn extended down the right side of the neck, out to the right shoulder, across the breast to the left side, then down the left leg and foot and out between small, third, and fourth toes, tearing the last two apart. He had on a pair of heavy work-shoes laced with strings of rawhide, and the left shoe was torn from the foot and hurled a distance of thirty feet away. His hat was a heavy "buckeye" and its crown was torn to pieces. His shirt and trousers looked as though they had passed through a threshing-machine. The drum of the right ear was ruptured.

I gave him hypodermics of nitroglycerin, digitalin, strychnine and atropine, and applied heat to the extremities. (Treatment, as you will observe, conformed to that recommended by the editor in his note to Doctor Simmons' article.)

Reaction began to show in about two hours, though the man continued unconscious for about thirty hours. He had to be catheterized for three or four days. Deafness was complete for three weeks. His home was within fifty feet of the railroad and situated about midway between two crossings, so, all trains passing each way would whistle in front of the house, but he could not hear these sounds.

The patient recovered gradually and slowly regained his hearing to such an extent, that now, by observing closely, he can hear loud converstaion very distinctly. The drum of the right ear healed, and at present hearing in this ear really is better than in the left one. He works on the farm every day. About six weeks ago he made application for life-insurance and was accepted, after undergoing a very rigid examination.

J. G. Renaker.

Dry Ridge, Ky.

SODIUM CACODYLATE IN LUETIC RHEUMATISM

I have read with great interest the discussions anent the treatment of luetic conditions with cacodylate of sodium, and I want to register my experience with those who have found efficacy in the treatment with it.

A young man came to me for treatment for rheumatism. He had been working in a damp cold cellar of a packing plant. The company's doctor had treated him, but gave him no relief. I instituted a thorough cleanup and cleanout course, à la Abbott, choosing as a purgative—calomel, grs. 8; podophylin, gr. 1; rhubarb, grs. 6; compound jalap powder, grs. 8; sodium bicarbonate, grs. 10; divided into 4 capsules, one to be taken every hour and followed in two hours by a laxative saline.

I procured a dozen vials of sodium of cacodylate, 5 grains. I injected, hypodermically, one dose every other day, until there appeared a puffiness of the under eyelids, then I gave them only every three days, and then increased the dose from 5 grains to 7, but at longer intervals. In ten days' time, the patient was able to lay aside one crutch. In three weeks' time, he put away the other crutch, and in four weeks, which was in the autumn, he went to the cotton-patch, got fat, and weighed more than he ever did before.

I have treated other cases similarly and have had gratifying results; which, of course,

makes me somewhat biased when the discussion comes up.

By the way, I have used the cacodylate in pellagra, but did not find it dependable, although I think that, in the present state of our knowledge of the treatment, it does as well as any other remedy. None of the remedies used seem to be specific.

A. L. Saunders.

Memphis, Tenn.

PROMPT ACTION OF ATROPINE IN PULMONIC EDEMA

I have been a constant reader of The Clinic for fourteen years and expect to continue until—well, the date to be inserted by Doctor Abbott when I am gone. The value, to the practitioner of medicine, of this journal can not be appraised truly by anyone.

I am considered a very successful practitioner, and I pride myself on my knowledge of the science and practice of medicine, but I must confess to the conviction, that whatever success may be mine I owe largely to Clinical Medicine and its many able contributors; for, without The Clinic, I believe, I should long ago have been water-logged—and you may know what happens to a water-logged craft on a tempestuous sea.

I am a graduate of the socalled scientific school of medicine, but I must, and will, say that, to get hold of a therapeutist, one must of necessity turn to other schools, to the Dosimetrists, the Eclectics, or even the Homeopaths. All outrank the disciples of the old school. And why? Because these practitioners study and know their materia medica and their therapeutics—something unknown to our own school.

The fact is, that the drugs and their properties are not considered by our students as being of much value or worth. That matter is something that the "regular" leaves to the nurse to look after. Indeed, I have often heard such doctors say to them: "O, you know what to do, better than I; give what you think is best." And that knowledge isn't much, as a rule, his prescriptions consisting mostly in an order for somebody's elixir of pepsin and, maybe, an enema—and the doctor passes on to his next patient.

How many of these practitioners understand the action of a single drug, a single active principle? What they do do, is, to prescribe by the intermediation of some pharmaceutical manufacturing house which has bombarded them with literature and told them how to give their products. And there their knowledge ends.

This same kind of practitioner never heard that one could control a hemorrhage with the aid of atropine or emetine. He never knew that in edema of the lungs, when the victim had been unable for nights to lie down in bed and have one hour of good refreshing sleep, 1-50 grain of atropine sulphate, hypodermically administered, together with 1-6 grain of heroin, would vouchsafe to this poor sufferer his first real night's sleep, and relieve him of that horrible agony, of that slow but insidious suffocation, when he is drowning in his own fluid. He never experienced the pleasure that comes to us the following day, when we see the patient again and say to him, "Well, my man, you had a fine sleep last night, the first for a good many days?" and he smiles back a grateful smile: "You bet I did, doc, I had the finest night I have had for many a day; O, I feel just fine!"

Yes, and he does, too. He did not sit up all last night with pillows piled behind his back—no, he did not; he just went to sleep, and he lay down exactly as he did before the beginning of the trouble. No one can realize the wonderful relief the poor sufferer obtained from that grand drug atropine except the poor unfortunate himself. After this, you let your patient take doses of 1-250 grain of the sulphate every two hours and five granules at bedtime, each and every night, until all edema is gone. Then you can discontinue until another attack supervenes, which may not be for six months or a year.

Let me caution you always to watch your male patients for the effect of the atropine upon the bladder, any retention of urine calling for the immediate withdrawal of the drug. Not so, however, with female patients, in whose cases I never have had to stop it on account of its action on the bladder; they are not bothered that way.

Doctor, take my advice, never attempt to practice medicine without atropine. You *must* use it; it is essential.

N. Macfarlane.

Los Angeles, Calif.

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[Right you are. Atropine is one of our most useful remedies, and not studied or used half enough. But don't call the dosimetrists sectarians. Most of us are "regular" and "eclectic" both, that is, we belong to regular

organized medicine, and we are adopting and adapting "the best," wherever we find it.—Ed.]

ACUTE GASTRIC INDIGESTION

There exists considerable confusion respecting the difference between acute gastritis and acute gastric indigestion. Many cases of acute gastric indigestion are being diagnosed as acute gastritis. However, it must be remembered that acute gastritis is of very rare occurrence as compared with acute gastric indigestion, and that, when seen, it will generally be found to be owing to the ingestion of corrosive or irritating poisons; although it may follow the eating of food that has undergone bacterial or chemical change.

While in acute gastric indigestion the vomiting may be severe, it generally is transient. There is no doubt in my opinion that many cases of persistent vomiting are diagnosed as gastritis, when actually the vomiting is the result of cerebral or uremic origin. Then, only recently the writer was called in consultation to a case of acute gastritis which proved to be due to an obstruction of the small intestine.

In performing autopsies on infants and children up to six years of age, it is very rare to find lesions of the stomach, although there may have been persistent vomiting for days before death ensued. This is especially true in children who have died from gastroenteric disease, namely, cholera infantum.

Acute gastric indigestion is manifested by vomiting that occurs suddenly and repeatedly, often accompanied by fever and always by prostration. Generally there is disgust for food; still, I have seen a few cases in which the little patients seemed starved although they took food with avidity—but it was ejected almost as soon as swallowed. This abnormal appetite, the writer believes, often is due to the great thirst experienced. The temperature often is 103° and in some cases may reach 105° F., although in a few cases seen the temperature remained normal or even below. Almost at the start or at least in twelve to twenty-four hours, there is evidence of bowel disturbance; the stools contain indigested food, are of greenish color and contain more or less mucus. The abdomen may at times become distended but not always. If the attack is prolonged, the abdomen often becomes very flat.

The first thing to be done is, to administer a high enema. I want to lay stress on this procedure; it should, in fact, be the initial treatment in any illness of any nature in which there is acute vomiting and an absence of free bowel movement. Should the vomiting continue after the initial enema, the stomach should be lavaged at least once, regardless of the exciting cause. If the vomiting be persistent, give no food for twelve hours, at least. The colonic flushing should be repeated from time to time in order to supply to the organism the lost fluids. No food should be given for twelve to twenty four hours, according to the severity of the symptoms, then some barley-water, mutton-broth, or milk well diluted with water may be tried in teaspoonful doses every half hour. In older children, I have had most excellent success from fresh buttermilk in spoonful doses. Should the matter vomited be very acid and the stools green, lime-water or chalk is to be given If the food or water again is rejected, a further rest for the stomach should be ordered. Nothing is to be gained by forced feeding; in fact, very often chronic gastric indigestion follows these attempts to feed the child before its stomach is in a condition to receive nutriment.

Attention here is called to introducing food with a tube in these obstinate cases of vomiting when not due to intestinal obstruction. It is a singular fact that often food is retained when put into the stomach through a tube, although vomited up if swallowed naturally. When nourishment cannot be retained after thirty-six hours of fasting, when given naturally or by the tube, it is best to begin feeding by the rectum. For this purpose, use completely peptonized milk and give at intervals of from six to eight hours, in quantities of from 2 to 4 ounces for infants and of from 6 to 12 ounces for children from eight to ten years of age. I have found applications of heat or counterirritation over the stomach-area of very little value. For infants or children under two years, fresh peppermint-herb, well bruised and wet with brandy or dilute alcohol, has been of service in allaying distress and vomiting.

In my early practice, I treated these cases purely with drugs, and the results were varied, indeed. In later years, many drugs have been discarded as useless. The initial enema, recumbent position, withholding of food for twelve to twenty-four to thirty-six hours, and colonic flushes with physiologic salt-solution, to supply to the system the lost fluids, has brought me far better results.

However, if a certain drug is indicated, I do not hesitate to give it. Calomel in minute

doses, say, 1-10 grain every half hour (as nearly dry as possible) until 1-2 to 1 grain, according to age, is given, has been of service in allaying the vomiting and bringing the attack to a standstill. When the vomiting is controlled, the calomel should be followed by a laxative saline dissolved in hot water. I have found the "anodyne for infants," in small doses, effective in allaying the vomiting, and in producing the quietude that is so essential.

As soon as the vomiting is controlled, if the temperature remains high, I give aconite hydrobromide in small doses, often repeated, until the arterial tension is reduced and the skin active; thereafter as indicated.

It sometimes occurs that the vomiting is so severe, so frequent, and so urgent that I have to give morphine hypodermically. The morphine should always be guarded by atropine, in the relative proportion of 1 to 1-20 grain, or, 500 : 1. Thus, children between six and ten years should receive 1-10 grain of morphine and 1-200 grain of atropine, while for children one to two years old the dose should be, of morphine, 1-50 grain, and of atropine, 1-1000 grain. It seldom is necessary to repeat this medication. When it is, the indications will appear in about six or eight hours after the first dose.

As these patients improve and are carefully returning to their former diet, you will give hydrastoid before meals, in order to restore the tone of the gastric mucosa, and diastase and papain after meals, to aid the weakened stomach in performing its function.

C. W. Canan.

Orkney Springs, Va.

CHLORAZENE: MY EXPERIENCE WITH THIS ANTISEPTIC

I bought 4 ounces of chlorazene from The Abbott Laboratories very soon after they put this new antiseptic on the market and have been using it in my practice now about five weeks. I must confess that I am amazed, almost carried off my feet, by the wonderful germkilling and antiseptic properties it has developed in my hands thus far. Let me relate some of my experiences with it.

Case 1. On the night of August 27, a number of Mexicans were having a celebration that ended in a drunken fight. One of the party received a blow with a dirt-soiled brick that laid the skin open across the center of the frontal bone, from the eyebrow to the hair; the cut being about 3 inches long and leaving the glistening skull bone bare in its center. The edges were ragged, and, being exactly in the center of the frontal bone, there was not much hemorrhage to wash out the wound. Stunned and drunken, the fellow slept the rest of the night without receiving medical attention.

The next morning, I picked the hairs and other foreign matter out of the wound, sprinkled about half a thimbleful of chlorazene powder (plain) into it and rubbed the skin around so as to get the powder all over the wounded surface, then inserted three sutures. The chlorazene produced a little burning sensation for about two minutes and caused the blood-mixed serum that was oozing out to turn to a brownish color. I laid a plain clean piece of cloth (not medicated or sterilized) over the spot, then tied a large clean handkerchief around the head. I never dressed the wound again, for it healed by first intention without there being any pus, pain or swelling.

I had every reason to believe that this was a seriously infected wound. I believe that, had I swabbed it out with iodine (as would have been my treatment had I not used the chlorazene), this man's eyes would have swelled shut and I should have had a suppurating wound taking three weeks to heal. As it was, I removed the sutures on the eighth day, and all was well.

Case 2. A girl now ten years old, underwent an operation for the removal of adenoids more than a year ago. She now has catarrh of the nose and the adenoid growths still are bothering her. The nose has been suppurating for a year or more. With some difficulty I taught this child to use a douche, after the mother insisted it could not be done. I first ordered the use of plain warm water, then salt-solution, and, later, solution of potassium permanganate. Now for about three weeks she has been using a 1-percent solution of chlorazene, and this appears to be doing her good.

Case 3. One of my men patients is suffering from acidosis, and his mouth would be very sticky and nasty-tasting every morning upon awaking. Present treatment: Wash out the mouth well at bedtime with a brush, apply a bit of chlorazene powder to the tongue with the point of a knife, then, with the tongue, work it around until all the surfaces are covered with it. Swallow the saliva. The man now has a perfectly sweet mouth in the morning.

This is not an advertisement, but a pointer from the field of action. It is intended to do you good, dear reader. Here it is. Get a bottle of chlorazene and use it for everything

I think I can manage to get land at the rate of $60 for every 100 acres (or 60 cents an acre), and I will promise to plant the first year 10 acres with cacao for $700, of which $600 will be for my work, while $100 will go toward planting 250 acres with cacao, the proceeds from which must go to the establishment and maintenance of a "preparatory college and agricultural school."

Remember, also, that this still is a wild country. Many a time I have had to do without coffee, flour, sugar, and other such articles, as I am so far away from all communication. Luxuries or comforts must be produced before we deserve them. But everything needful can be raised here in a very short time and with the greatest of ease.

Also remember that I am out of the world only because I am alone—the only white person here—and that sometimes I do not get any mail in two or three months. But, a colony of a hundred or more can have mail-delivery every week, for then motor boats will bring it up.

With the fine woods we have here in abundance, we can make our own furniture; and, then, with a hospital, a church and a school, we shall be as well off or, rather, better, than in civilized centers.

After all, brother, man's happiness consists in making those whom you love happy; and I—well, I, perhaps, may know a little happiness again in the contemplation of the good done in my declining years, God having seen fit to take from me, all my loved ones, leaving only an immense void, an unceasing ache. May this be the answer to those who have asked me why I am planning this undertaking.

15. As to what to bring, I would suggest a "gold-medal" camp-cot and mosquito-netting, as the journey is made through regions where mosquitos are plentiful; although further up the river there are not many. Waterproof coats and rubber shoes may come in handy. A small cooking-outfit for campers (there are several makes) will prove very useful. But remember not to bring along an alcohol or gasolin stove, for they are useless. We burn wood, which is plentiful.

I have a 22-caliber high-power rifle, but never use it, my 32-20 Winchester being all I need. With the smokeless powder and soft-nosed bullet it kills alligators, tigers, mountain-lions, and tapir, while the black-powder cartridge is good for deer and smaller game. The Winchester or Marlin repeating shotgun is no good here, for the paper shells swell from the atmospheric moisture, and reloaded brass shells also clog the breach A double-barreled gun, preferably a 16-gauge, and brass shells is what we use here, and it has proven the most satisfactory. Jaguars and tapir are killed with it constantly. If you like fishing, bring along your rod and things.

16. Jaguars, lions, and peccaries do not come near the camps, and there is no danger for children. They are not as fierce as I found them in Mexico, owing probably to the fact that they have plenty of wild animals to feed upon.

17. I call the Indians "my Indians," because they serve me better than they do other people; for they love me. When money gave out, they even worked for me; yes, and they went hungry, too, for me and almost naked, as we could get no clothes. That is why I love these dusky children of nature—and they are "my" Indians, and I am their friend.

Now, to close, I beg that you will let me know when you will come, so that I may arrange passage for you from New Orleans and meet you at La Ceiba with a boat, to take you up the coast.

Letters for me should be addressed as follows: A. R. Hollman, care of Laffite, Alvarez y Cia., La Ceiba, Spanish Honduras, C. A.

A. R. Hollman.

La Ceiba, Honduras.

INFLUENCE OF THE OVARIAN SECRETION UPON THE BLOOD

Animal-experiments conducted by F. Picone, of Rome (*Riv. Ospcd.;* cf. *Muench Med. Woch.*), convince him that the anemia following extirpation of the ovaries results because the internal secretion of these glands has some physiologic connection with the constitution of the blood. This secretion, he assumes, directly stimulates the erythro- and the leukopoietic organs, augmentation of the hemoglobin and increased resistance of the erythrocytes.

Another investigator, G. Antonelli, of Rome (*Il Policlin.;* cf. *M. M. W., loc. cit.*), using young, sexually mature bitches, enumerated the following blood changes observed after ovariectomy: marked diminution of the erythrocytes and of hemoglobin; slight increase of the blood-cells with the substantia granulofilamentosa; lessened resistance of blood-cells; occasionally a certain degree of leukopenia or also a lymphocytosis or a relative mononucleosis.

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

Consideration of the body in health is one thing; of the body sick, another. The "water-cure" is as old as the use of drugs. It has competed with drugs and is now competing with vaccine- and serum-therapy; or, it may be regarded as a supplementary treatment. Less is known about the action of the bath than would be supposed.

Much knowledge thought to have been acquired long ago is now repudiated. Here is a candid bacteriologist confessing that, although he has been engaged all his life in studying diseases and their treatment, he continues to "have more failures than successes." The effects and consequences of the apparently simple "act of applying water to the skin" seem to be as much of a mystery as is bacteriology.

Happily, it does seem settled that some bathing is wholesome. Whatever the operation, so much is fairly assumed. For a person in health, the "act of applying water to the skin" is believed to be good for something besides removing dirt. The conclusion accords with a general understanding. Many triumphs of physiological science seem to verify flatteringly the common instincts developed from our pliocene beginnings.

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Senator Bailey, in opposing the establishment of a children's bureau by the federal government, is alleged to have asked whether we wanted to bring children down to the level of hogs. Quickly came the retort: "No, we wish to bring them *up to* the level of hogs."

Disease is ever with us. It cannot be prevented entirely, probably. For this reason, all the attention that can be given to curing disease is time and effort well spent. But, because we cannot reach perfection, is no reason why we should not have perfection as our goal. Where prevention is impossible, we call upon cure. When cure is impossible, we die. The starting-point is prevention.

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In connection with the International Congress of Hygiene and Demography held at Washington, the American Federation of Sex Hygiene made a striking exhibit of the annual waste and loss from the substance of the people due to indulgence in vice and luxury. The object of the federation was, to disseminate knowledge and sound opinion on the sexual relation and of the enormous injury to health and contribution to mortality from its abuse.

An estimate of the money-cost of the social evil is put at the appalling sum of $3,000,000,000 a year—which is worse than wasted. There can be no statistics or accurate knowledge on this subject, but those who have made a study of it believe this to be an underestimate rather than overstatement; and it takes no account of the loss from impaired efficiency or actual withdrawal from productive occupation.

Other items are placed in conjunction with this for comparison, and they further illustrate the squandering of the products of labor, and the means of subsistence, upon indulgences that are injurious rather than beneficial to health and strength and to the genuine comfort of living.

The amount of money spent upon intoxicating liquors is put at $2,000,000,000 yearly—and that spent upon tobacco, at $1,200,000,000. There must be considerable uncertainty about these sums, and a distinction is to be made in both cases between comparative abstinence, moderate indulgence, and excess; but there is no doubt that a large proportion of this expenditure is productive of injury and results in the waste of much that might contribute to better living and augmented wellbeing, while the capital and labor bestowed upon producing the materials for harmful or useless indulgence could be applied to making the necessaries and comforts of life more abundant and less costly.

Other items are given, such as $800,000,000 for jewelry and plate, $500,000,000 for automobiles and $200,000,000 for confectionery; but these serve rather the purpose of contrast than of comparison for teaching the same lesson. There are many expenses for pleasures and gratifications of taste, which not only are harmless in their effect, but are proper concomitants of civilized life and re

wards for reasonably directed effort. A more striking contrast is that with $250,000,000 expended upon churchwork and $12,000,000 for foreign missions.

The kind of waste and loss incurred in actually vicious indulgence and in luxury that has no rational excuse may well be seriously taken into account in considering complaints of the high and increasing cost of living. It has much to do with the poverty, misery, and suffering of the world, and the hardships of those who have to be content with scanty comfort or the bare necessities of life.

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Judging from reports of government statisticians, there are seasons of the year when certain diseases are less likely to be fatal than at others. From observations made, they say that the months when the leading complaints most prevail and those during which they are least prevalent, with the maximum and minimum number of deaths in the territory covered in the investigation, are as follows:

Typhoid fever, September, 1197 deaths, and May, 578 deaths; measles, March, 1107, and October, 79; scarlet-fever, March, 760, and September, 241; whooping-cough, August, 720, and October, 353; diphtheria and croup, November, 1343, and July, 640; tuberculosis of the lungs, March, 7700, and September, 5488; pneumonia, March, 7606, and August, 1554; bronchopneumonia, March, 3229, and August, 946; diarrhea and enteritis (in children under 2 years of age), July and August, 12,535 and 12,565, respectively, and February, 1337.

As the observations covered nearly three-fourths of the population of the country, they ought to be of value to heads of families, and others who are well aware of the periods when the most of diseases are prevalent.

In many instances, the proverbial ounce of prevention will do much to obviate sad results. And, the figures presented by the government experts, therefore, are worthy of the careful consideration of all.

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Despite everything that has been done and is being done toward the prevention and cure of disease, it is worth while to observe the radical divergence of sentiment and opinion among the eminent scientists of the world. It is a very ancient proverb that asks, "Who shall decide when doctors disagree?" And, indeed, in spite of all the advances that have been made in medical science, we must admit that physicians are far from agreement regarding many important medical matters.

It is for this reason that, at the present time, I am not in favor of a department of health of the federal government. If medicine were, or showed any likelihood even to become, an exact science, there could be no valid objection to such a department; but, as long as it remains split into so many different, and sometimes intolerant, sects, it would be as fair and reasonable to create a department of religion, and to give the sanction of governmental endorsement to some one of the sects into which the religious world is divided.

It is time for a broader catholicity and absence of the bigotry and rancor that once characterized adherents of the medical sects or "schools" of the present day. The same liberal tendency is increasingly visible among the religious sects. But, even in these matters of medicine and religion, we have not as yet reached the millennial stage. It is true, however that our controversies are conducted now with a gratifying absence of the rancor that once was inseparable from them.

We can now discuss points in controversy without losing our tempers and declaring that those who disagree with us must be, necessarily, fools and charlatans. But, as is only natural, we still give the preference to those who agree with us and mentally dismiss those who hold to differing ideas as deficient in education or in their reasoning-powers if they have not been deflected from orthodoxy by the lure of pecuniary advantage.

If we had a department of medicine or of the public health, it is inevitable that the secretary would appoint as his subordinates those only who agreed with his own opinions—and thus an official standard of medical orthodoxy would be established. It might be to the interest of the public health that such an official standard should be set up and maintained, but it would be certain to excite much jealousy and dissatisfaction among those whose ideas were regarded as heterodox.

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That there might be some gain alike in economy and efficiency by combining all the medical branches of the government under a single head may be true, although that has not been demonstrated; but the chief objection is, that it would, necessarily, establish a standard of medical orthodoxy and create a discrimination against all other schools. And, as for me, I am not yet prepared to admit that we regulars possess all the medical knowledge there is or that any few men in our ranks know it all. It is better to work independently as we are doing, each worker

contributing to the general fund of knowledge what he thinks of value—and thus the truth will ultimately prevail.

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During September 11 to 17 the fifth annual convention of the American Association for the Study of Spondylotherapy met in Chicago, and there was a large attendance. This occasion has prompted a line of thought that I will attempt to elaborate in this month's contribution.

Great advances have been made in the sciences on which the superstructure of medicine rests, notably physiology, pathology, and physics. There have been great strides in all these branches, yet, I believe that less attention has been paid to physiology than to pathology—an unfortunate fact. I believe that medical schools are making a mistake in not devoting more time to the fundamentals of medicine—the foundations upon which the whole superstructure rests—namely, anatomy, physiology, and chemistry. How precious little the average physician does know about the anatomy and physiology of the nervous system!

Medicine, both as a science and as an art, is an organism, the branches of which, like those of the nervous system after leaving the common stem, appear to start away from each other, and finally get lost as the distance increases. The special studies which lead into the investigation of seemingly narrow paths and byways, and the specialistic practices which obscure the general view, while throwing concentrated light on a special point, may appear to contract the scientific conscience and to rend the body medical into dissevered splinters. But this, really, is not so. The more familiar we have become with these "narrow paths and byways," the more useful has medicine become.

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To specialistic labor, we owe the fact that many branches of science that formerly had no contact with conservative, or socalled "scientific", medicine are now recognized as valuable, intrinsic parts. Hydrotherapy, electrotherapy, mechanotherapy, and psychotherapy are illustrations.

The once quack "water-cure" doctor, the "electric" doctor, and, more recently Christian Science practitioners, Osteopaths, Chiropractics, and all that ilk, have, perhaps, been more of a help to modern medicine than a hindrance. Surely, a help when medical men have been broad enough to take what good they had, while discarding the useless and harmful.

Now, spondylotherapy, it seems to me, is based upon sound scientific principles. We, many of us, are not enough familiar with the functions of the spinal nerves and their influence for good or ill on the rest of the human organism.

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We know that, if a hidden cause of pain, for instance, be in any one particular spot, it is only by tracing the nerves of and from that spot that we can hope to arrive logically at the real cause of the symptoms, and so divest the cause of its obscurity.

Now, external pain, or pain upon the surface of the body, if properly appreciated, may be considered as an external sign of some distant derangement. If the pain persists—if it does not depend upon any transient cause—it becomes necessary to seek the precise localization of the pain; then, as soon as we recognize the precise position of the pain, we are enabled, by a knowledge of the distribution of the nerve or nerves of that part, to arrive at once at the only rational suggestion as to what nerve is the exponent of the symptom. By following centripetally the course of that nerve and bearing in mind its relation to surrounding structures, we shall, in all probability, be able to reach the original, the producing cause of the pain, and, consequently, to formulate a correct diagnosis.

Patients judge of the position of their own disease, most frequently, by the situation of the most prominent painful symptoms or those most obvious to their senses; while we physicians, relying upon our knowledge of the true cause of the symptoms, judge of the seat of the disease by a just interpretation of the symptoms through the medium of normal anatomy. We know by experience that such symptoms may manifest themselves at a spot far removed from the actual seat of the disease.

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Thus, if, for instance, we trace internally the great splanchnic nerve from within the thorax downward and find it connected at its abdominal end with the solar plexus, thence trace its distribution to the stomach, duodenum, liver, and pancreas; and, if we follow the other, or upper, end of the same great splanchnic upward to the fourth, fifth, and sixth dorsal nerves, which emit peripheral sensory filaments to the integuments, over the angles of the scapulæ, to the interscapular spaces and the adjoining skin, we can well imagine (without going into how the transmission is made) that these nerves, carrying the influence upward and backward, may explain the occur

rence of the pains sometimes experienced in those external parts associated with a disturbance of abdominal viscera.

"The subject of spinal therapeutics," says Abrams, "has received less attention from the medical profession than it deserves. Even the laity know that cold applied to the back of the neck may arrest hemorrhage from the nose and that heat applied to the small of the back may hasten menstruation. The profound and farreaching physiologic truths which underlie these simple phenomena have either been ignored or only been given inconsiderable attention."

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But I must not attempt to go into the subject of spondylotherapy. That is a task for Doctor Abrams and those who know more about that subject than I do. I wish to remind the reader, however, that hitherto the advancement of medical science has been brought about mainly by individual effort. The value of such work in the past I in no way underrate, nor do I desire to lessen the amount of it in the future; but, in medical science, there is much that defies interpretation from individual experience, and many a problem so farreaching in an ever widening field, with elements so manifold that no single man, however gifted and longlived, can hope to bring the whole within his range.

The need, therefore, in medicine of that combination and concentration of individual work as is adopted in many other branches of science and in commerce, and to which increasing facilities of intercommunication have given so much impulse, and so much strength, can not be questioned. Indeed, it may be said that, resting on individual research alone, medical knowledge can be advanced but slowly and with difficulty. Future progress to any great extent must be the work, not of units acting disconnectedly, but of the collective force of many acting as one. But for many to act as one, organization is needed.

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I look upon these meetings for the study of spondylotherapy as a manifestation of a great movement. However, it will be great and reflect credit upon the medical profession only as this movement is kept clean. Quackery and the jealous and mercenary spirit of a commercial era must not enter into the ranks of a scientific and ethical brotherhood.

There is no room for spondylotherapy as a separate "school" or "cult" of medicine. It only should constitute a part of scientific medicine and be employed for diagnosis and treatment when and where it can profitably be made use of to the best advantage. Under no circumstance, should it be practiced as an exclusive means of cure or exploited as a cureall.

—

One cannot fool all the people all the time, even if he should try. There has been abroad in the land altogether too much medical sectarianism and arrant quackery, and too much dilettantism among our well-clad and well-fed half-instructed but uncultured and mentally unbalanced classes. But, if there is any science or art in which the dilettantism, both of the narrow specialist and of the busybody lay adviser, is detrimental, it is in medicine. We have been told that "a little learning is a dangerous thing." That is a mistake. It is not learning that is dangerous. It is ignorance that harms.

Hence, we should learn all that it is possible for us to learn about this subject, and of any other that will enable us to get a firmer hold upon, and a larger insight into, medical science. We should not be deterred from a liberal-minded seeking for truth by the ultrascientific doctor who can see nothing of value in any thing that is new. Every good thing that we have in medicine at one time was new to it.

Let me urge those who are interested in the study of spondylotherapy not to become narrow and dogmatic. Let them be liberal, broadminded;let them work hand in hand with laborers in other fields of medicine.

In the natural order of evolutionary processes, the principle of synthesis has its due and ordered time and place. In America, one would be shocked, at first impression, to be told that he had employed such methods; but, in the last analysis, what is mental suggestion or the administration of placebos? And who has not employed them?

Remembering the function of our profession to be the prevention and cure of disease and the relief of suffering, and remembering that no two cases of disease in the whole history of the medical profession have presented identical conditions, it is monstrous for any man or set of men to forbid the use of any method, any instrument, any remedy or any treatment that in the opinion of the attending physician promises success.

In the medical profession, as in religion or science, the perils of dominating influence cannot be escaped. While the evils flowing from industrial concentration can be met, the evils that must follow the syndication of intelligence can not be avoided.

(To be continued)

Among the Books

VON RUCK "IMMUNIZATION AGAINST TUBERCULOSIS"

Studies in Immunization Against Tuberculosis. By Karl von Ruck, M. D., and Silvio von Ruck, M. D. New York. Paul B. Hoeber. 1916. Price $1.00.

This handsome volume of 421 pages of text presents the results of many years of investigation, which was undertaken more particularly with a view of developing a successful treatment of tuberculous disease, along the lines originated by Koch with his old tuberculin. Not only this, however, but for many years the authors have felt that it must be possible to produce a specific immunity against the pathogenic action of the bacillus of tuberculosis, in the animal and human organism, as it is secured against the virus of smallpox, and it is more especially in this direction that the researches of the senior author were made, since the beginning of this century.

It will be remembered that Dr. Karl von Ruck announced the completion of his related studies, in 1912, and that an investigation of his method, by the U. S. Public Health Service failed to produce satisfactory results. The causes of this failure cannot be discussed here; they have been considered, at least in part, in this volume. Suffice it to say that, in contrast to the unfavorable results in the Hygienic Laboratory at Washington, the workers in the laboratory of Sir Almroth E. Wright, in Saint Mary's Hospital, London, succeeded in demonstrating the possibility of immunizing persons against the tubercle bacillus, and of producing antituberculous substances in the blood of the treated persons. The results of this work were published in the *Medical Record* for July 22, and form the subject of *Senate Document* No. 453, published by the Government Printing Office, Washington, 1916.

Even if confirmation of Doctor von Ruck's method had not been afforded by independent investigations, his book under consideration would deserve the attention of tuberculosis physicians and of all physicians who are interested in the prevention and treatment of this formidable disease, for the reason that, for many years, he has been one of the foremost tuberculosis physicians in the United States and that he has not only been very successful in the treatment of tuberculosis, but also has rendered unstinted aid to scores of other physicians who put themselves under his guidance. The teachings of an investigator who is at the same time an experienced clinician and research worker may confidently be expected to be of value.

The volume contains three parts, the first of which is devoted to the theoretical consideration of the problems of immunity, in a form in which the general practitioner can understand and appropriate them for his practical work. It is to be taken into consideration, however, that these problems can never be explained in so simple a manner that they ever can become easy reading. But the study of medicine is not expected to be easy; it requires thought, application and concentration. Still, a careful study of the first part of this book will make many points clear that may have remained obscure hitherto. The second part deals with the subject of practical immunization against tuberculosis, and reports the results of the authors in the immunization, both prophylactic and therapeutic, of children and adults. In this part the study of individual cases, their diagnosis, selection for treatment, and the mode of the latter are discussed in great detail, and it is here that the remarkably wide clinical experience of the authors enables them to be of particular service to physicians.

In Part III, an account is given of some experimental studies in the immunization against tuberculosis, including the history of Doctor von Ruck's vaccine. It is shown here that animal experimentation very often may be hampered seriously by the fact that the experiment animals are not suitable, and that in consequence the results must be misleading. It is also shown that it is quite possible to immunize normal animals in such a manner that they will resist a virulent infection with tubercle bacilli; and, finally, the last chapter is given over to an experiment which was made with a large number of guinea pigs that had acquired spontaneous or stable infection with tubercle bacilli, and,

where you need an antiseptic locally, and do not be afraid of poisoning anybody. I have used solutions, from weakest to strongest, up to the pure powder The pure powder will smart in a fresh cut or an open ulcer for probably a minute, but after that not nearly as badly as do many ot the other applications we are employing.

And then, when you have done this, write and tell us about it. This chemical is in its swaddling clothes and we want to get all the knowledge about it that we can—and get it without delay. We have been doing surgical work with infected wounds ever since Cain killed Abel, without having a remedy that would kill the noxious germs, and yet be nontoxic. So, you see, we have been doing without this chlorazene for a long, long time—but now we want to know everything about it.

I have used chlorazene to wash out a woman's infected uterus, used it in sore eyes, and am going to use it wherever a germicide is needed, for it certainly has been giving me some surprises.

T. H. Standlee.

Edgewood, Tex.

[We give Doctor Standlee's experience, which is but one report out of many received. Others will appear in due season, as we begin to "find" ourselves and are in a better position to answer the numerous questions that come to us concerning this interesting and powerful antiseptic.

As we hardly need explain, chlorazene is a synthetic product, made from toluol, its chemical name being paratoluenesodium-sulphochloramide, but technically known among chemists as a "chloramine." It is but one of a series of chloramines, which were first described by the English chemist Chattaway.

The possibilities of this compound as an antiseptic were suggested a few months ago by Dr. H. D. Dakin, of the Herter Laboratory of New York, who was sent to France by the Rockefeller Institute. His work on the hypochlorites, carried out at a hospital in Compiegne, in France, in association with Dr. Alexis Carrel, made him famous. The subsequent suggestion of chloramine (chlorazene) as an antiseptic, was published in several papers in *The British Medical Journal*, and is the latest outcome of these earlier studies.

This antiseptic has been taken up in the military hospitals in Europe, and, with results that have apparently justified the enthusiastic claims made for it.

When it is recalled that, in addition to being practically nontoxic, noncaustic, and exceedingly stable in powder and solution chlorazene seems to be one of the most powerful antiseptics at our command, its large field of usefulness will be grasped immediately by the thoughtful physician. So powerfully antiseptic is it, in fact, that very dilute solutions suffice in most instances.

For instance: In the eye, chlorazene may be employed in 1-10 (0.1) percent solution; in throat and nose, 1-5 to 1-1 (0.2 to 0.25); in the bladder and urethra, 1-4 (0.25); in the uterus and vagina, 1-1 (0.25) to 1; and, in general surgery, as an irrigant to wounds, as a wet dressing, and for most other purposes of a similar character, from 1-2 (0.5) to 2-percent solutions. Exceptionally, as when there is a very profuse discharge from a bad wound, 4 percent or even stronger my be resorted to. It is rarely necessary to use it pure, although in England a 35-percent gauze is much employed.

Chlorazene very likely will also be used as a disinfectant for a large variety of purposes especially in the sick room and about those suffering from contagious diseases. It has been suggested that small tablets might be made for the home-sterilization of water, and this is being investigated. It has been used successfully by Colonel Gordon, of the Royal (British) Army Medical School, in steam spray, to disinfect rooms and to clear the throats of meningococcus-carriers. In fact, many ways of employing it are opening up.

We shall be much gratified if our readers will report their experiences with chlorazene. —Ed.]

DIZZINESS, SEASICKNESS, VERTIGO

In the physiologies of childhood's unhappy hours, you were expected to learn and to remember what happened to a poor pigeon. In those schoolbooks, there were two pictures. One was a pigeon before its ear was opened. The other woodcut showed a pigeon with its semicircular canals cut out.

The semicircular canals are three half-pretzels placed at right angles to each other. One is horizontal, one is perpendicular east and west, the other is perpendicular north and south. The three semicircles are hollowed out and act, in the human and animal heads, much as the stabilizer of an aeroplane does. They keep men from falling, they balance birds, and they allow a fish to find its equilibrium. In fine, these three half-circles and canals are located behind the ear to prevent giddiness, vertigo, loss of balance.

They are actually meters to show which way gravity pulls.

Recent investigations on the ear by Dr. Lewis Fisher and Dr. Isaac H. Jones, of Philadelphia, make it plain that even the dizziness of high blood pressure, heart strain, and kidney disease are traceable indirectly to the vestibule of the ear, which contains these semicircular stabilizers. In other words, whether it be seasickness, vertigo or other kind of dizziness, the physiology and the anatomy of the ear labyrinth is concerned more or less.

The healthy man depends, in a large measure, upon two score or more senses, such as muscle, touch, heat, cold, pain, vision, hearing, taste, hunger, smell, and particularly this sense of equilibrium and position in space.

While it is true that a pure, unadulterated sensation from one sense rarely occurs after the moment of man's birth, it is equally correct to say that a perfect balance such as a flag-pole painter or a structural iron-worker maintains is brought about by harmony of action between several senses, such as the muscle-sense, sight, and this static sense which is under consideration.

Interference, therefore, with any of this triad, will bring to pass some sort of dizziness. The worst types, however, will be associated with disease and deformity of or accident to the semicircular "pretzels" in the ear-labyrinth.

Dizziness, seasickness or vertigo spells are caused by obstruction or disturbance of the usual relations and sensations which keep the human fluids balanced against the force of gravitation and of life.

In 1860, Professor Ménière of Paris, was the first definitely to associate one kind of falling-disease or vertigo with the semicircular canals. Since then, it has been known that the static sense, the sensation of equilibrium, rests in that place. Whenever any malady, injury or birth-condition reaches or otherwise irritates this vestibule of the ear, some kind of dizziness will occur. On the other hand, no matter how severe a disorder affects the human form divine, if it fails to interfere with the even tenor of those canals, no vertigo will appear.

It must be clear, then, that a few persons may inherit or acquire such unadaptable semicircular canals that the constant sway and motion of an ocean-steamer will disrupt the fixed fluid relationship in this labyrinth. Even the roll of a streetcar or railroad train may cause it. The upshot will be seasickness, carsickness, and other "vertiginous" attacks.

So important have these inner ear-canals become in their association with dizziness that special departments have been created at the University of Pennsylvania and the Medico-Chirurgical College in Philadelphia, according to Doctors Fisher and Jones, where special tests are carried out to determine the state of health of this static sense.

The principle, which underlies these tests is, to find the condition and the movement of the lymph in those hollow half-pretzels. When the lymph passes in a given direction, "nystagmus", or a vibratory twitch of the eyes, occurs; vertigo is felt and the individual feels like falling.

The way to set the lymph in motion is much the same as children do, to wit, "spin around and see how dizzy you feel." The doctor gives the patient a few twists on a revolving stool. The normal effects are known, and deviations from them give a diagnosis. When you are thus spun to the left, you first feel it and then you soon do not know how you are turning, because the lymph and fluid in the east and west canal catches up. When the spin is stopped, the lymph continues to move and you feel as if you are spun the wrong way, though you stand stock still.

Similar sensations of falling in a horizontal plane have to do with the horizontal canals. The sensation in a rising elevator or a rapid descent concerns the perpendicular canals. The impulse to throw yourself from a high place is supposed to be the pull of gravitation upon the lymph in the canals.

Seasickness involves first one semicircular canal and then another. One reason why purgatives (thus open bowels) help to prevent seasickness is, because the excess of lymph and fluid in the canals is removed and reduced to a minimum.

Deaf and dumb people do not become seasick, according to Dr. William Jones. Animals otherwise easily made seasick are unaffected when made deaf. Small children seldom become seasick, because the vestibule of the ear is very small. Seasickness certainly seems to be an ear condition.

L. K. Hirshberg.

Baltimore, Md.

THE QUESTION OF MILITARY PREPAREDNESS

To the citizen of Switzerland, it is as much a matter of course to be prepared to go to the defense of his country as it is to pay his taxes; indeed, ever since the foundation of the confederation in 1291, every ablebodied

citizen of the Republic was a soldier, while in more recent times everybody who can not or does not serve under the colors has to pay a military tax instead.

Since the movement for military preparedness has set in in our own country, the question naturally has arisen as to the best means of accomplishing this object, and, consequently, the various military systems in vogue in European countries have been investigated with a view to formulating some modified scheme suitable for adoption in the United States. Because of its many excellent features, which render it suitable for the citizenry of a republican community, the system of the Swiss federal army has received considerable attention. A concise description of it is contained in a pamphlet recently published by the New York firm of G. E. Stechert & Co.*

Switzerland covers about 16,000 square miles in the heart of the European continent; its population is 4,860,000. The country is a little less in size than our states of Vermont and New Hampshire taken together. In proportion to its size and population, the Swiss Republic can, relatively speaking, put on foot the biggest army in the world, namely, 500,000 drilled men, and this army can be mobilized within the short space of twenty-four hours.

It has been said that every Swiss citizen contributes toward the maintenance of the army, either by actual service or by paying taxes. The latter tax is paid, not alone by those who are physically disqualified to serve, but also by the citizen-soldiers in those years in which they are not actually in service.

The preparation for military service begins in the schools, in the way of compulsory gymnasium drills and the physical training without arms, which all pupils between the ages of 7 and 15 years are obliged to attend. Beginning with the age of 10 or 12 years, the schoolboys are enrolled in the cantonal (state) cadet-corps, attendance being obligatory in some of the cantons. Here, the boys undergo a very excellent military drill, this including target-practice with a rifle that is a miniature of the regular Swiss army-rifle. The cadets are instructed by regular soldiers and officers, usually under the supervision of an "instructor" of the federal army; the work of the season coming to a climax in a two days' manoeuver, during which the "playing" at soldiering is taken decidedly seriously, indeed.

After the boys have left school, voluntary work is begun in the military preparation companies, as established in almost every village and town, for boys between the ages of 15 and 20 years. These instructions are given by officers or non-commissioned officers.

Upon attaining the age of 20 years, the young man receives his regular arms and other equipment. These he is obliged to keep at home, in good condition and always ready for instant mobilization. He now enters the recruit-school, the training at which lasts from sixty to ninety days, according to the branch of the service. After the work in the recruit-school is completed, the young soldiers are enlisted in the regiments or batteries of their respective home towns or villages, and from then on they continue in their country's service until their forty-eighth year; or, if they become officers, they are not mustered out until they are 52 years of age.

From the recruit-school on, close attention is paid to the work done by the individual men, and those who show adaptability and fitness are ordered to attend special schools, first for noncommissioned officers and then for commissioned officers, after each course in which they are obliged to serve in a recruit-school in the rank attained.

From his twentieth to the thirty-second year, each soldier has to serve two weeks every year. The men serving in this "first class," or "Auszug," form the élite of the army, naturally, being the select of the Swiss citizenry for active service. From the thirty-third to the fortieth year, the citizen-soldiers belong to the reserve, or "Landwehr," and these are called in for two weeks every third year. From the forty-first to forty-eighth years, the men belong to what one may call the second reserve, or "Landsturm," the members of which, in time of mobilization, are employed more particularly to protect public properties, notably the railway-stations, tunnels, bridges, the alpine roads and great passes, and the like. Those not otherwise physically fit and those below or above the age-limits of service are enrolled in the unarmed "Landsturm," in which they help in any capacity for which they are best suited, this including the work of bakers, butchers, typists, clerks, ammunition-workers, and the numerous other occupations.

It has been said above that the noncommissioned and the commissioned officers are selected from the ranks of the recruits and are subjected to careful training and selection. It follows that every officer in the Swiss army

*"The Swiss System." By Captain Remy Faesch. Price, 25 cents.

has risen from the ranks, and this by virtue solely of personal merit and fitness, political or other influence being absolutely out of the question in securing the promotion of any man or officer in this democratic army of Switzerland.

The Swiss army includes all the necessary branches—infantry, cavalry, artillery, engineers, and medical corps. The care of the men in the barracks and in camp is excellent, as the present writer remembers with pleasure from personal experience. The work is hard, but effective, and the influence upon the morale of the men is an excellent one.

In the United States, the requirements of an army in time of war hitherto have been supplied by citizen volunteers, many of whom had received training in the national guards of the various states. The delicate position in which we find ourselves at present in our relations with the countries at war in Europe and also with Mexico, and particularly the need of preparing for intervention in the latter country if this should become unavoidable, makes it incumbent upon us to remember the truism to which Washington already gave expression, namely, that the best assurance of peace rests in being prepared for war; and the necessity is now manifest of preparing the young men of our country more generally than is done in the national guards.

The assertion sometimes heard, that the young American is impatient of any authority and that he would not submit to military discipline, is fatuous nonsense. Every young man of sense knows instinctively, if not deliberately, that discipline is an excellent training; and it is quite possible, even under the political and economical conditions prevailing in our country, to copy or at least to imitate the Swiss army system and to raise and develop an army in this country of ours that would be effective for all demands that possibly may be made upon it, and which could be mobilized at short notice, provided that the curse of politics could be kept out of it. To quote from an editorial in *The Chicago Tribune*:

"All would be willing to do what is necessary, if they knew that the system by which they were called were equitable and fair. Only one military system is. It is the universal system."

There are no more liberty-loving people than the Swiss. It is because of their intense love of liberty and of their country that they cheerfully submit to the discipline and to the hard work required of them as the potential and (as during the present war) the actual defenders of their homes.

With suitable modifications, the system prevailing in the Swiss army would be excellent for maintaining peace between the United States and other nations. It would be democratic in its very nature, and would be a means of raising the military life of our country to an efficient and dignified level such as could, and would, claim the respect of other nations, precisely as does that of the Swiss nation today.

H. J. Achard.

Chicago, Ill.

IODINE AS A PREVENTIVE OF INFANTILE PARALYSIS

The New York Academy of Medicine recently held a symposium on infantile paralysis, which was quite extensively reported in *The Journal of the American Medical Association*. Doctor Flexner told us a lot of things that we already knew, as, for instance, that "epidemics of infantile paralysis always arise in warm weather," and "as yet no cure has been discovered."

In our study of the disease and a careful perusal of many recent reports and other literature on the subject, we note the close similarity between the bacillus of tetanus and that of acute poliomyelitis reported by Auregan, also the marked reduction of mortality in tetanus from the use of iodine-solution of from 60-percent to 31-percent strength.

Even with our limited knowledge of the thyroid secretion of iodine, we do know that a deficiency in thyroid secretion lowers systemic resistance to bacterial invasions. Then, this being true, would it not be a wise plan to increase the systemic resistance by supplying to the tissues sufficient iodine, in the proper form, not only to raise this resistance to normal, but even above normal for a short time, and thus fortify against the possibility of bacterial invasions.

I have many times proved the great value of iodine intravenously in pneumonia, catarrhal asthma, bronchitis, glandular infections, and tuberculous lesions. I have never as yet had the opportunity to try it in tetanus and infantile paralysis, but others have, and Auregan's report should stimulate us to a thorough trial of this remedy.

The laity has been "scared stiff" by scarehead newspaper reports and every day parents are beseeching their physicians for something to prevent the infection.

Theoretically, a soluble nonirritating prep-

aration of iodine given in moderately small doses once or twice a day should increase systemic resistance to the infection.

W. N. Fowler

Kalamazoo, Mich.

MORE ABOUT THE MOSQUITO-COUNTRY

In response to my letter published in Clinical Medicine for July, I received, from all over the United States, more than four hundred letters from doctors as well as a few

The man carrying the banner is a chicken thief. He is paraded around with a guard and band.

who are not doctors. Really, I did not expect such a deluge; but, I am glad that there is room for all of them.

Of course, it is impossible to answer all these letters individually, although many had enclosed stamps for a reply (the writers forgetting that U. S. postage stamps are useless here). But, right here I may state that some put only a 2-cent stamp on their letters, instead of a 5-cent one (the rate, for 1-2 ounce, for *foreign* countries in the postal union), and, as a consequence, I had to pay for each of these letters a fine of 18 cents—under the provisions of the Honduras postal laws—and these fines aggregated, $39.60 for those letters that bore insufficient postage. For this reason I have been forced to leave some of the letters in the post-office. Still more probably will come to hand, but meantime I will here try to answer, to the best of my ability, most of the questions asked by my correspondents.

1. At least two steamers of the Vacaro line leave New Orleans for La Ceiba every week and make the voyage in three days. First-class passage is $30.00.

2. The port of La Ceiba is a city of about 8000 inhabitants, rebuilt after the fire of 1914.

3. From La Ceiba, along the Mosquito Coast, to Brewers Lagoon is about 150 miles which, as a rule, I make in Carib crafts or coasting-schooners in from twenty-four hours, with favorable winds, to three days, in calm or against contrary winds. When it promises to blow, I do not undertake the trip. From Brewers Lagoon to my place, it takes the Indians six days to paddle up the river. A motor boat can make it from my place to La Ceiba in twenty-four hours.

4. There are plenty of Americans in La Ceiba, mostly employees of Vacaro Brothers, who came here poor men, but who have amassed a fortune of many millions in the fruit-trade, all in about twelve years. But there also are scattered along the coast a few white men who failed to make fortunes, for the reason that they did not organize.

5. There are no white men on the Patuco River beside myself, and there is absolutely no chance to practice medicine. There are no ways of communication but the river. There are no roads or automomobiles. When I leave the river, it is, to explore the country, and I have to cut my way through the tropical forest with the machete.

6. Snakes, I am told, are plentiful in Honduras, and I have killed two poisonous ones not far up the river. That I have not seen any in my region I can explain only by assuming that they must be few in numbers here. I protect boa constrictors, as a rule, for, they kill off rats, mice, and other noxious

A Carib village in the lower Mosquito Country

vermin. Yet, I have killed the biggest one I have seen—it measured 19 feet and 6 inches and weighed over 200 pounds. This one I considered a menace to the little black-eyed brown babies of our neighborhood.

7. I do not know the amount of rainfall for month and year, but it is so great that it keeps down the heat. I have never seen the thermometer register above 82°, and never below 74 degrees. Our elevation is about 400 feet above sea-level. The well-water is good and may be had at a small depth.

8. I do not know why there is so little malaria here, even along the lower part of the

Patuco River, where the anopheles is plentiful, unless, I explain it by the probable absence of plasmodia in the water of the swamps, for the reason that this is continually renewed by the abundant rains. There are but very few mosquitos in my region, and none at all higher up in the country.

9. There abound big trees, these in some parts being of commercial value and in others not, while everywhere the underbrush and jungle are dense. A company, an English concern, had obtained from the government the concession to cut mahogany trees, for a consideration of $33,000; however, it could not meet the payments, owing to the war, and, so, forfeited its charter.

10. The government protects its colonists, who have never been troubled by revolutionists in those parts of Honduras where revolutions do occur. The Mosquitia, however, has been free from revolutionary disturbances, owing both to the ignorance and the peaceful nature of the Indians of those regions.

11. It is a matter of indifference to me what may be the creed of any missionary sent down here, so long as he is a good Christian and is duly authorized by his denomination.

12. There are growing wild here several varieties of cacao-trees, and they furnish a very good chocolate for home use; but their market value is relatively low.

The best variety of cacao known is that which goes by the name of locomisco. This is cultivated in the state of Chiapas Mexico, in the region of Pichucalco where Doctor Gray lives. Imported and planted here, it will come true to name. To clear the land, import and plant in the nursery and then set out the plants, and planting the shade trees will cost about $100 per acre. About 250 trees go to the acre, and these, after five years, average about 1 pound to the tree.

Fifteen years ago, cacao-beans were worth 15 cents per pound. Since then, Germany has planted a tremendous number in Africa, as also have the Portuguese, the English in East India and Ceylon, the Americans in Hawaii and other places, and Venezuela, Brazil, and other countries have done the same, and, for all that, the price of cacao-beans has steadily gone up, reaching 40 cents a pound before the war; and this without any artificial booming.

The fact that the German government now gives chocolate to its soldiers instead of coffee or beer, naming as a reason the superior food value and sustaining qualities of the cacao, will enhance its price still more after the war is over.

The yield of cacao steadily increases, year by year, until it reaches 6 or 8 pounds per tree yearly. But let me warn you not to believe those exaggerated, interested reports about a yield of 20 pounds or more per tree.

13. The "wild hog" I mentioned is not a hog at all, properly speaking. However, there are three varieties of the peccary—its correct name. Still, domestic hogs do very well her . Cows can be bought cheap; they are not very good as milkers, though.

The chief article of food for the Indian are bananas and plantains (the latter the large green cooking-bananas), both of which grow wild. The Indian cultivates, besides, in a desultory way, rice, manioca (utilissima,) and sugar-cane. From the latter he makes what they call chicha, upon which to get drunk.

I have planted three classes of yam—dioscorea bulbifera, aculata, and alata—which produce potato-like roots sometimes weighing as much as 32 pounds each. Caladium esculentum in the United States called elephant's-ear, produces a very fine edible bulb, and I have planted plenty of it.

I also have planted artocarpus incisa, commonly known as breadfruit.

Corn can be planted every day of the 365 that make the year. Sweet-potatoes do well. Irish potatoes I have not tried, yet, many kinds of vegetables do splendidly.

Oranges, grapefruit, lemon, avocados (alligator-pears), mangos, and, I think, grapes also and perhaps strawberries may be grown here. And you never have tasted pineapples such as grow here.

14. Now about coming down here to locate. I would suggest that as many as can manage should come together. We all have confidence in THE AMERICAN JOURNAL OF CLINICAL MEDICINE. Why not make that our medium and organize for investigation, under the leadership of one of the journal's staff?

I am very anxious now, after receiving so many letters, to make good. If we organize, it can be done very cheaply. Remember above all, I am for the poor doctor. Of course, we shall need all manner of men, rich as well as poor, only we do not want the rich man to become a menace to those of little means, by his taking labor away from the latter, through offering bigger wages, or otherwise taking undue advantage. Let us be brothers and all work together, and I know the enterprise will be a good thing for all.

for this reason, presented, more than is commonly the case, conditions which simulate those found in tuberculous persons. In the opinion of the reviewer, the last chapter is of very great importance in so far as, ordinarily, animals with experimental tuberculosis do not imitate practical and actual conditions, and that in this experiment these actual conditions existed. The fact that it was possible to treat some of these tuberculous guinea-pigs successfully by means of a tubercle bacillus preparation containing all potent substances of the bacillus, vindicates and justifies the employment of this preparation in human practice.

It is impossible to enter into most of the important discussions in the book before us. The reviewer will make the attempt to do so in a special article next month. He feels certain, however, that a careful and persistent study of this volume will be of great assistance to the tuberculosis physician, and that it will enable him to treat his patients the better.

LOVETT: "INFANTILE PARALYSIS"

The Treatment of Infantile Paralysis. By Robert W. Lovett. With 113 illustrations. Philadelphia: P. Blakiston's Son & Co. 1916. Price $1.75, postpaid.

This book is written for the purpose of collecting and presenting the results of recent studies in the treatment of infantile paralysis. It contains a practical, plain and, perhaps, rather elementary statement of the various therapeutic measures which the author believes to be the soundest and best.

The work is a timely one, in view of the prevailing epidemic of the disease in New York and elsewhere. The author is well fitted, through his large experience, to write upon the subject, and his offering to the practitioner will prove the more acceptable, as it contains the practical results and ripe experience of an active pediatrist whose clinical work in conservative surgery and orthopedics is well known.

As indicated by the title, the book deals almost entirely with the treatment of infantile paralysis, taking up in succession the management of the acute phase, of the convalescent stage, and of the chronic phase of the disease. The subject of muscle-training, which is such an important therapeutic measure during the first two years, before operative treatment may be undertaken, has devoted to it a special chapter, commensurate with its importance. We believe that this little work will prove of valuable assistance to the practitioner in his management of this important disease.

PROGRESSIVE MEDICINE

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in The Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D. Assisted by Leighton F. Appleman, M. D. Philadelphia. Lea & Febiger. Six Dollars per annum. June 1, 1916, Vol. 19, No. 2, and September 1, 1916, Vol. 19, No. 3.

The principal subjects treated in these two numbers of "Progressive Medicine" are Hernia, by William B. Coley; Surgery of the Abdomen, Exclusive of Hernia, by John C. A. Gerster; Diseases of the Blood. Diathetic and Metabolic Diseases. Diseases of the Thyroid Gland, Spleen, Nutrition, and the Lymphatic System, by Alfred Stengel. Diseases of the Thorax and Its Viscera, including the heart, lungs, and blood vessels, by William Evert; Dermatology and Syphilis, by William S. Gottheil. Obstetrics has been treated by Edward E. Davis.

PERDUE: "PELLAGRA"

Pellagra. Part I.—Translated from the Italian monograph of Professors Giulio Alessandrini and Alberto Scala, by E. M. Perdue, A. M., M. D., D. P. H. Part II.—Pellagra in the United States. By E. M. Perdue. Burton Publishing Company, Kansas City, Mo. 1916.

The first part of this volume contains the results of the researches undertaken by Professors Alessandrini and Scala of the Institute of Experimental Hygiene of the University of Rome. Concluding an account of these studies, the authors assert that pellagra is a disease caused by forced retention of mineral salts, to which succeeds an excessive liberation of acids, with respect to what is considered as normal for the determinate organism, or pellagra is none other than a mineral acidosis with all its consequences.

In Part II, Doctor Perdue presents a detailed study of the geographical distribution of pellagra in the United States, together with an investigation of soil conditions, particularly in those parts of the country where the disease is endemic. He finds, in agreement with the Italian investigators, that pellagra is a chronic acid intoxication caused by colloidal silica in the water supply; that the disease is strictly localized and contracted in those

regions where the water supply is derived from clay soils.

In accordance with this view, the prevention of pellagra consists in providing a drinking water of the proper alkalinity, and the rational treatment of the disease follows the classical lines of the treatment of all mineral intoxications. It requires: 1, an antidote to the poison; 2, the elimination of the poison already in the system; 3, building up the depleted organism; 4, symptomatic treatment of the manifestations.

It will be seen that this study of pellagra does not agree with the more recent results of the investigations undertaken in the New York Postgraduate Hospital, and that the question of infectiousness is negatived rather than supported. In our opinion, neither of the prevailing theories can lay claim to having presented a final solution of the problem, and we have to await further studies before we can hope to understand this obscure disease sufficiently.

"THE MEDICAL CLINICS OF CHICAGO"

In the July number of *The Medical Clinics of Chicago* before us, the use of digitalis is discussed by Doctor Arthur R. Edwards, while in Doctor Tice's clinic the subject of diabetes is considered, and the same subject received attention in Doctor Strouse's clinic, particularly with reference to surgery and pregnancy. There is a talk, by Doctor Portis, on vomiting, and one, by Doctor Abt, on feeding the normal baby. These are only a few of the many instructive cases presented in this number. Published bimonthly by The W B. Saunders Company of Philadelphia. Price per year, $8.00.

MODELAND: "THE EXPECTANT MOTHER"

The Expectant Mother and Her Child. By Margaret J. Moderland. With an introduction by Harold A. Miller, M. D. Philadelphia: The John C. Winston Company. 1915. Price $1.00, net.

It is with genuine pleasure that we can recommend this little book to every physician, for his own information as well as for that of his obstetric clients. The book contains in a nutshell answers for all the multiplicity of questions likely to be asked by expectant and by actual mothers, concerning themselves and their babies. A great advantage of the book is that the author, who is a trained nurse, very successfully has avoided to write a learned treatise, but has told her story in such simple language as may be understood by "folks." Brief as it is, the information will be sufficient in most instances; where it may not give certain circumstances, it will help the young mother to formulate her further questions addressed to physician and nurse.

Strangely enough, very few good books on this important subject are available, while we constantly are in receipt of requests from physicians for just this kind of information. Miss Modeland has done a real service to physicians, nurses, and mothers.

HAWORTH: "NITRO BY HYPO"

Nitro by Hipo: A Pep-tonized Tonic for the Physician. By Edwin P. Haworth. Kansas City: The Willow Magazine Company. 1915.

It is difficult to surmise the reason for the title bestowed upon this book. It might better have been called just "Common Sense" or "Horse Sense." Anyway, it is a reproduction of various articles and paragraphs that have appeared in *The Willow Magazine*, and which have given courage and inspiration to many. The main merit of the separate talks lies in their brevity. You can read one of them in five minutes and then have enough to think about for twenty-four hours. Short, sharp, concise—a regular "alkaloidal pocket-case" of good, plain sense and truth, driven home with a vim. This is a good book. Read it and keep on reading it, doctor, and then read it some more. And, incidentally, take it to heart and *live* it.

MACNAMARA: "INSTINCT AND INTELLIGENCE"

Instinct and Intelligence. By N. C. Macnamara. The Oxford University Press: 1915. Price $2.00.

Education does not mean merely the development and training of the intellect, that is, the ability to reason from experiences and to regulate one's actions accordingly, but it includes the training of the instinctive disposition, or character. The problem of what we generally designate as instinct not only is interesting, but a most important one, and the author devotes a considerable portion of his argument to the discussion of this inherited peculiarity of living beings and then applies the results of his studies to the practical questions of education.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

Query 6243.—"The Forchheimer Treatment of Exophthalmic Goiter." R. E. G., Ontario, Canada, desires to know how long the Forchheimer treatment of exophthalmic goiter should be continued before one may expect definite signs of improvement.

For the sake of completeness, I will cite from Forchheimer's work on "The Prophylaxis and Treatment of Internal Diseases" (New York, 1910, p. 465). He says that his favorite method of treatment, which he has employed for over twenty-five years, consists of the continuous use of quinine hydrobromate, with ergotin. This salt was chosen because it is better borne by patients than the other salts—i. e., cinchonism is not produced so easily. His experience has been very extensive in the use of this drug.

Quinine hydrobromate is given in doses of 0.3 Gm. (grs. 5), in gelatin-coated pills, four times daily; to each pill is added ergotin, 0.065 Gm. (gr. 1), when the quinine alone does not give results in forty-eight hours. As these pills may have to be given for a length of time, the author adds that he has never seen any bad permanent effects follow their administration; one of his early patients took four of these pills daily for nearly three years without detriment to herself.

The effects of this treatment are as follows: first the tachycardia disappears, then the thyroid gland diminishes, and finally the tremor and the exophthalmos. The first change usually takes place after the treatment has been used for forty-eight hours; it should then be continued until all the symptoms have disappeared; in the fully developed cases this has been in as short a time as four months and as long a time as three years.

On account of the general condition—the extreme nervousness of the patient, for instance, or the state of the heart—it frequently becomes necessary to supplement this method by the Weir Mitchell treatment.

This covers the essence of the case. I wish to add, however, that it is important that all functions of the patient should receive very careful attention. It is particularly important that the alimentary canal be cared for with the utmost scrupulousness. The lower bowel should be washed out with enemas, and regularity should be secured with proper remedies, especially if there is any tendency toward sluggishness. The mineral-oil treatment (I like Petrochondrin) is particularly well adapted to these cases.

If there is fecal toxemia, the use of the sulphocarbolates or Galactenzyme, or both, will be found of exceeding value. The heart action can be steadied by the use of a good digitalis preparation, or, if the case is not too pronounced, with cactus. Bram, in a recent article recommended lecithin as a nutritive tonic, and Neuro-Lecithin will naturally commend itself.

Of course, there are cases which will not yield to the Forchheimer treatment—cases so far advanced and in which the symptoms are so pronounced that, as a rule, surgical intervention may be necessary. I confess, however, that I am not keen for surgery in goiter, since these patients are poor subjects for operative work.

Recently Watson of Oklahoma City has advised a method of treatment with quinine and urea hydrochloride in 50 percent solution. The treatment promises well, and has given excellent results, but it must be used with caution. For details, see Watson's article in *The Journal of the American Medical Association* (Sept. 25, 1915).

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Query 6244.—"Anociassociation-Anesthesia." A. C. C., Oklahoma, desires to be informed as to just what is anociassociation.

Anociassociation is a term introduced by Dr. George W. Crile, of Cleveland, and anociassociation-anesthesia is a method, elaborated

by him, calculated to eliminate surgical shock altogether.

According to Crile, the actual operative interference and the associated handling of organs are, by no means, the only factors that contribute to the production of surgical shock. Crile maintains that this condition is, in great part, of psychic origin and also that it is aggravated by irritation of the nerves.

The psychic disturbances of the patient he avoids by establishing pleasant and reassuring conditions before undertaking the operation. He allays fear of the operation and of the anesthetic by administering a narcotic (morphine and scopolamine) several hours before inducing the general anesthesia. For the latter purpose, his favorite agent is nitrous-oxide-oxygen, which, he maintains, is the safest anesthetic in the hands of the experienced anesthetist; although it is the least safe if employed by inexperienced persons.

In order to prevent shock to the sensitive tissues, including the nerves leading from the field of operation, novocain is employed, as a matter of routine, in all cases. No tissues are divided that have not first been completely infiltrated with this anesthetic. Sometimes Doctor Crile uses quinine and urea hydrochloride.

As for the rest, Crile insists upon the importance of gentle manipulation throughout the operation, and of sharp, cleancut dissection. By these means, it has been found possible, in the Lakeside Hospital (Cleveland), to reduce operative shock to a minimum, and, in consequence, to improve surgical results materially.

Doctor Crile has recently written a book on the subject, in conjunction with Dr. W. E. Lower. It is published by The W. B. Saunders Company, of Philadelphia, and sells for $3.00.

Anociassociation is well worth studying. Incidentally, you may have observed that it is carried out, in a way, under the H-M-C narcosis, which we have advocated for a number of years as an introduction to general anesthesia.

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Query 6245.—"Follicular Conjunctivitis." P. S., Virginia, is treating a case of granulated eyelids in the person of a young man who wishes to join the navy and is physically all right in every other way. He desires to obtain a prompt cure.

First of all, irrigate the patient's eyes thoroughly, three times daily, with a solution of zinc sulphocarbolate and boric acid—2 and 10 grains, respectively, to the ounce.

Bear in mind that follicular conjunctivitis can hardly be regarded as a pathological entity. A granular condition of the lower lids not infrequently is observed in individuals who have been exposed to much dust. Occasionally the diplobacillus and other pathogenic organisms are found in persons who rub their eyes with dirty hands.

A careful bacteriological examination should be made in every intractable case. If pneumococci or the Koch-Weeks' bacillus are present, a 33-percent solution of protargol should be instilled carefully once a day, and a 5-percent solution similarly used three or four times daily.

The zinc-salts prove most efficient in diplobacillary infections. Many authorities recommend solution of zinc sulphate of the strength of from 1 to 1.25 percent. When no organisms are present, the application of yellow oxide of mercury ointment usually will cure the disease rapidly.

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Query 6246.—"Hepatic Engorgement in Powder-Plant Employees." J. C., New Jersey, asks if we can suggest an effective treatment for yellow atrophy of the liver or the engorged liver such as occurs in acute yellow atrophy. Our correspondent treats a large number of men that work in powder-plants, and this condition seems to be prevalent among such workers, who are compelled to inhale the dust and gas incident to their occupation.

Of course, it is difficult for us to outline an intelligent treatment, without having a clearer idea, of the conditions which obtain in these individuals, the nature of the poison, and, the immediate surroundings.

There is some histological difference between fatty degeneration and acute yellow atrophy of the liver, the latter condition resulting, frequently, from the toxic action of phosphorus, arsenic, and other substances that induce rapid fatty degeneration and cell destruction.

Mild cases present few symptoms of diagnostic import, though there may be some pain or uneasiness in the right hypochondrium, slight jaundice, hemorrhage, and grave cerebral phenomena. Microscopically, the liver is much reduced in size, weighing but 15 or 20 ounces. A primary enlargement may occur. Microscopic examination also reveals destruction of the hepatic cells, disappearance of the nuclei, and the presence in the cell-wall of fat globules containing free pigment.

Nervous shock, mental worry, syphilis, certain acute fevers (typhoid, malaria, and so

on), and phosphorus-poisoning sometimes give rise to changes closely resembling those observed in acute yellow atrophy of the liver. It is probable that you are dealing with a hypertrophic condition. There is, of course, no satisfactory treatment for acute yellow atrophy. In phosphorus-poisoning, the prognosis is far from satisfactory.

Before we attempt to venture therapeutic suggestions, we should like to have a much clearer idea of conditions generally and, if possible, see one or two specimens of urine from typical cases. The area of hepatic dulness should be carefully ascertained, also the character of stool observed.

In this connection, we would call attention to the very interesting article by Dr. Louis G. Irvine, entitled, "Gassing Accidents from the Fumes of Explosives," which appeared in *The British Medical Journal* for January 29, 1916, page 162.

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Query 6247.—"Recurrent Dermatitis." A. T., California, asks advice in the case of a man aged forty-six suffering from an eruption of twenty years' standing, which first manifested itself slightly under the chin and was thought to be due to rhus-poisoning and treated accordingly. Soon, however, the entire face was involved and large scabs formed; these disappearing after about three weeks, only to return again. Other parts of the body were similarly affected to a slight degree. With cold weather, the trouble disappeared, but the following summer it returned, and so every summer thereafter.

"All kinds of local treatments have been tried, but only seem to increase the trouble. The cold weather of the middle West always brings relief. Humidity (especially extremely hot nights) makes his trouble very much worse. The cool nights of California afford some relief, except during the burning and swelling stage. The itching is intense and almost unbearable, especially at night. If the beard is not shaved off, the itching is worse; still, this operation is almost intolerable. At times, the eyes are swollen shut and burn fearfully, and sometimes the forehead is red and swollen; the scalp, however, is clean, but nearly all the hair on top of the head has been lost. Any exercise, even walking, during warm weather sets the face on fire. Bending over causes burning and intense redness of the face. When, as a public speaker, on the rostrum, he gets the least bit warm, a burning of the skin sets in for a time that is almost unbearable. Relief comes, to some extent, when he is cooled off by cold baths or eating or drinking something ice cold. A warm meal will cause or increase the burning and itching.

"His general health is first class. Physicians of recognized ability, skin specialists (including some of the big cities) have pronounced his general health excellent, but, also, afforded him no relief. Salves and washes of every kind have been tried, without benefit. When the burning ceases, the local trouble disappears in a few hours. Change of climate seems to make no noticeable difference or what perhaps does good one year may fail another. His habits are, and always have been, the very best, while, in general, the patient 'lives the simple life,' especially as to foods, sleep, and so on. The winter season never has failed to bring relief and the skin then is in perfect condition. The bowels are regular. The urine shows the presence of total solids, 4.6 percent, urea, 2 percent, a very slight trace of indican, and many calcium-oxalate crystals, the specific gravity being 1020.

"Cultures have been made from the pus possible to obtain from the scabs or scales and from these autogenous vaccines were prepared. But this, also gave no decided result. The first two specimens contained pure cultures of staphylococcus citreus, the last one was found and prepared from staphylococcus citreus and the bacillus mucosis."

We are inclined to regard your patient as suffering from a basal trophoneurosis of toxic origin, with a secondary infection (staphylococcus) of broken skin areas. We can hardly consider it a case of chronic rhus-poisoning. Still, the fact that the various excellent physicians have found him in good health and are unable to arrive at any definite diagnosis must be given due weight. But, the other fact that this man has become partially bald is suggestive, although you must remember that with a great many men of forty-six there is "no hair where the hair ought to grow."

It hardly is likely that vaccines alone will prove of value. In this connection, we would urge the careful perusal of Doctor Wolverton's article which appeared in the August issue of Clinical Medicine. It is more than likely that comparatively large doses of nuclein and lecithin, in alternation with liquor arsenii compound, will be productive of benefit. In just such cases, small doses of cactoid and ergotoid also have proven markedly useful. During the attack, carbolized epsom-salt sponge-baths may be tried, for temporary relief.

As you will observe, elimination is far from what it should be. Boldin, gr. 1-32; and irisoid, gr. 1-6, might be given, before meals,

for two or three weeks, before beginning with the liquor arsenii compound and the nuclein-treatment.

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QUERY 6248.—"Inula Helenium. Sugar in Cardiac Diseases." J. F. W., Illinois, asks whether the active principle of inula is obtainable. Also he wants to know whether it is true, as he has heard, that physicians are prescribing sugar (either dextrose or levulose) in cardiac decompensation—as a muscle-builder, so to speak.

Helenin, a stearoptene (the camphor of a volatile oil) from inula helenium (common-name, elecampane) is being used quite extensively. This principle primarily acts upon the mucous membranes—especially of the respiratory tract—and secondarily on the lymphatic and glandular systems, increasing functional activity and energizing the tissues. It decidedly favors vegetative metamorphosis, liquefying and dissipating exudates. It has been described as a tonic and expectorant, also to some extent diuretic and diaphoretic.

Helenin is indicated in atonic dyspepsia, general debility, pulmonary and bronchial catarrh, and in exanthems where the eruption is retarded. In whooping-cough, the efficacy of helenin is remarkable. Competent clinicians have observed marked reduction of laryngo-pharyngeal excitability whenever this drug is given to effect. It is rapidly eliminated from the system. The ordinary dosage is 1-6 to 1-2 grain repeated every two to four hours, to effect. For children of 2 or 3 years, the dose is 1-64 grain, given at the same intervals.

There are on record a number of cases in which sugar has been used successfully in heart affections. Denyer, of London, (*Lancet*, April, 1913) says that cases associated with edema or anginal pain and those that are secondary to renal disease do not seem to be improved by the sugar-therapy. However, he reports the case of a woman 77 years of age who had had an irregular pulse for years and who was benefited by this treatment. At one time she experienced a severe heart attack, with a rapid, irregular, feeble pulse. There was cyanosis; from time to time dyspneic paroxysms occurred. There was no edema at any time. Amyl nitrite, digitalis, strychnine, and oxygen failed to relieve the condition. When death seemed imminent, 4 ounces of sugar taken in the course of twelve hours, caused her to rally. After that this sugar diet was continued, first, for some time, in the same dosage, then gradually decreased. She made a fair recovery.

In the *Deutsche Medizinische Wochenschrift*, of 1911, No. 50, there is an account of a woman 62 years old who had weakness of the heart-muscle, as a sequel of influenza. The attending physician prescribed cane-sugar, 60 Grams daily, gradually increased to 110 Grams, apportioned to the several meals. It seems that the cane-sugar manifested "a nutritive power which seemed almost specific for the heart-muscle." After such a course extending over eight weeks, the patient was able to take long walks, although before that she had become very easily fatigued. The cardiac symptoms—consisting of a slight systolic murmur at the apex, rapid and feeble pulse, high blood-pressure—disappeared, the author attributing a miraculous action to this treatment in question.

The following abstract from Goulston's pamphlet entitled "Cane-Sugar and Heart Disease," which appeared in the London *Lancet* for December 12, 1914, contains further information bearing on this subject:

"Having in view the use of sugar in the German army and among the Alpine climbers to sustain them under severe cardiac strain, the author was induced to try the effect of pure cane-sugar in the treatment of various kinds of heart disease which failed to respond to ordinary treatment. His first case was that of an enfeebled lady, 74 years of age, who suffered from fluttering heart, with rapid, irregular, and intermittent pulse. Under the cane-sugar treatment, she gained strength and vigor, and now, ten years later she is quite well, walks out daily, and travels alone.

"The author discusses the subject of heart failure, the physiology of cane-sugar in relation to the heart-muscle, and gives the details of his method of treatment, which consists in the administration of 2 ounces of pure cane-sugar daily for the first week, 3 ounces for the second week, and 4 ounces from then on as long as required. Total abstinence from alcohol and tobacco is enjoined, diuretics are given, if required, and rest and plain diet are enforced.

"The class of cases in which he claims to have seen almost constant benefit includes auricular fluttering and pseudo angina pectoris due thereto, auricular tachycardia, valvular lesions after acute rheumatism, and tobacco-heart. He records 20 representative cases, with a few illustrative tracings. The report contains clinical records carefully taken, not always by himself. The book is suggestive, although the cases are hardly sufficient in number to justify any general conclusions or wide claims."

Thus, it will be seen that the possibilities of cane-sugar, therapeutically, seem to be great. You are, aware, of course, of the fact that sugar has been recommended as a surgical dressing. Furthermore, its use, in the form of enemas, is strongly advocated in amebic dysentery.

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Query 6249.—"Hematuria of Obscure Origin." E. S. B., New York, forwards a specimen of urine for examination and, in his letter, says: "I am at a loss to understand where the blood comes from. The patient, forty-nine years old, has been in the best of health up to two weeks ago, when blood appeared in the urine. There have been no chills, the temperature is normal, but she experienced one attack of pain simulating renal colic. At times, her urine is perfectly clear. She cannot say whether the blood comes first or last, but believes that it passes simultaneously with the urine. The blood is bright-red and at times considerable in amount. On deep pressure, there is felt a slight soreness both over the bladder and kidneys. In general, she feels well and has a good appetite. She passed the climacteric two years ago, without trouble. Her pelvic organs seem to be in good condition. I have told the family that, in my opinion, the hemorrhage comes from the kidneys, and have advised rest and a milk-diet."

It is to be regretted, doctor, that you failed to state the total amount of urine voided during twenty-four hours, hence the total solids and urea can not be estimated. As for the test, a very few renal cells were found to be present in the specimen, besides some squamous epithelium and a moderate amount of pus. Mucin is absent and there are no blood casts or any signs of crystal formation. Under the circumstances, it is doubtful whether the blood is of renal origin. However, the source of the pus must be definitely ascertained. The comparatively large amount of pus and absence of mucin leads us to think it may be of vaginal origin, as it so frequently is in women. We do not find elongated clots, which would evidence the passage of the blood through the ureter.

As you are aware, hemorrhage from the bladder imparts a uniform red color to the urine, although, if collected in three glasses, the last glass contains the most blood. If the bladder is washed out clean and the catheter (plugged) left in place for a short time, the bladder contents again will become bloody. Sometimes the cystoscope alone will reveal the source of the hemorrhage, and it is essential to discover the cause if the blood is of renal origin. In nephritis, renal bleeding sometimes occurs without previous signs of the existence of the disease. If the tension is high, the presence of interstitial changes in the kidneys may cause otherwise unexplainable bleeding.

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Query 6250.—"Tonsillectomy a Cause of Sterility?" J. E. B., Texas, speaks of having seen the statement that removal of the tonsils of a boy will render him sterile, and adds that, while at first glance this does not appear reasonable, yet, in these days, when we hear so much about the interaction of the various glands of the body, one scarcely dares to dispute any such assertion without having a wide experience to back up the argument. "If there is any actual confirmatory evidence," he asks, "are such undesirable effects confined to men or are women similarly affected?

"Recently the passage, 'Blessed is he who openeth the womb,' which appears in the Bible somewhere, was quoted me in justification of intentionally induced abortion. I answered that, basing upon the general teaching of the Bible with regard to the bearing of children, my idea was that it referred to priests or physicians who in case of necessity assist midwives in cases of difficult childbirth—malpresentation, for example. Can you give the probable meaning intended to be expressed by that passage?"

The question as to whether the tonsils produce an internal secretion which may have a bearing on the function of the sexual glands cannot be put aside offhand. Harrower quotes some experiments, reported by Ott, according to which powdered dried tonsils and watery extract of tonsils were found to contain a powerful diuretic principle, stronger than either the infundibular tissue, the parathyroid bodies, and the pineal gland.

Tonsillar substance was found to exert a decided influence upon the circulation, producing at first a brief fall of blood-pressure and a decrease of the number of heart beats, this being followed by a reaction, in the form of increased arterial tension and pulse-rate. From this it is inferred that tonsillar secretion acts upon the heart-muscle. Possibly you may be able to get further information from Doctor Harrower himself, addressing him at 1107 West Seventh Street, Glendale, California.

As to the question whether tonsillectomy does or may produce sterility, the only answer possible at present is that we do not know. Although not probable, it is not impossible.

Regarding the "Blessed is he who openeth the womb," quotation which you accuse the Bible to contain, the present writer doubts that it even has been seriously investigated. However, you have put the cart before the horse, for you would have come nearer the truth had you quoted, "He that openeth the womb is blessed." As a matter of fact, the exact language put into the mouth of Jehovah (Exodus 13 : 2) is as follows: "All the firstborn, whatsoever openeth the womb among the children of Israel, both of man and beast: it is mine." The meaning is, of course, that the priests claimed the firstborn of every woman, for temple-servants, and the firstborn of every animal, for the temple-table. Later, this dedication of all the firstborn to the Deity probably was found very difficult to carry out, and it was modified so that the tribe of Levi was sanctified to the Lord, in the place of all the firstborn—"for, they are wholly given unto me from among the children of Israel; instead of such as open every womb, even instead of the firstborn of all the children of Israel, have I taken them unto me." (Numbers 8 : 16.)

The first law is referred to briefly in Luke 2 : 23: "As it is written in the law of the Lord, every male that openeth the womb shall be called holy to the Lord." The children of Israel always formed a notable difference from all the other, child murdering, tribes and nations, in that they considered children to be a blessing, and further, in holding family-life sacred. And this is a distinction that characterizes the Jews even to this day and entitles them to respect among other white peoples.

Coming back to the main question, it hardly needs pointing out that present day conditions of social life undoubtedly tend, in themselves, to promote sterility or, at least, to diminish fertility, so that it hardly requires active interference with the laws of nature by deliberately promoting race suicide or lowering the birth rate. Our civilization, so called, is attending to that in a most effective manner.

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Query 6251.—"Arthritis Deformans." J. W. M., Massachusetts, describes a case of arthritis deformans of eighteen months' standing that has resisted all antirheumatic and tonic remedies and is growing progressively worse. Some of the joints apparently are badly damaged. The patient also has a large cystic goiter of at least eight years' standing, which gave her considerable trouble several years ago, but which under treatment seemed to quiet down, although it continued to grow slowly. At first she had symptoms of hyperthyroidism, but now the opposite obtains.

The Doctor thinks that the goiter has caused a disturbance of the internal secretions that is keeping the rheumatism from getting well, and believes that a balanced prescription of the extracts of the blood-glands might prove curative. He wants our opinion, also hints as to related literature.

We suggest, doctor, that you write Dr. Henry R. Harrower, of Glendale, California, who is secretary of the Association for the Study of the Internal Secretions. As you will readily understand, however, it is impossible to make any definite therapeutic suggestions in this case, without a much clearer idea of basal pathological conditions. By all means, the patient's blood and urine should be examined; moreover, it is a question whether the goiter should not be removed.

Sajous' "Internal Secretions" and Harrower's book entitled "Hormone-Therapy" would prove informative. Personally, however, we should be inclined to regard the goiter and the arthritis as entirely separate pathological conditions. It is true, of course, that deranged thyroidal functioning might predispose the individual to infection.

Great diversity of opinion still exists concerning the cause or causes of arthritis, and any classification must be regarded as provisional only, subject to alteration in the light of future knowledge. However, in all forms (save the gonorrheal), there is a toxic infection the organism and the source of which differ, but the individual's reaction and resistance determining, to a great extent, the changes consequent upon it.

Unquestionably septic absorption is at the root of most cases of arthritis, bringing them to a certain extent into line with definitely recognized gonorrheal and pneumococcal forms. Perhaps among the commonest sources are pyorrhea, dental caries, tonsillitis, pharyngitis, pyelitis, gastrointestinal conditions (upon this factor we have always laid special stress), uterine infections, influenza, suppurating wounds, sinus suppurations, and bronchiectasis.

A very interesting monograph on this subject will be found in J. Keogh Murphy's "The Practitioner's Encyclopedia of Medicine and Surgery."

Goiter and its treatment is considered in nearly all modern works, a very informative treatise being contained in Forchheimer's "Prophylaxis and Treatment of Internal Diseases." Cystic goiter nearly always requires surgical treatment.

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Lobeline Possibilities

The child is frightened most by the unknown, the terror that springs out of the darkness, while, however real any threatening danger may be, it excites less apprehension if it is seen and comprehended. One is reminded of this when he hears men speak of the dangerous character of certain drugs. When we do hear such a pronouncement, we know the speaker never made use of the remedy that he denounces. Singularly enough, the drugs most generally shunned as dangerous are those that, in all the materia medica, are safest, in that their action ensures their own elimination from the body. Thus, while a single dose of digitalis has killed a man, because the drug shut up the terminal renal arterioles and in that way prevented its own escape from the body, aconite, veratrum and lobelia—the dreaded and proscribed—are among the drugs that relax vascular tension and thus allow a free flow of blood to the emunctory apparatus.

Lobelia is a drug dreaded by those who have not learned to know it by practical application, while, on the other hand, it is trusted to a remarkable degree and utilized in a very wide range of cases by those practitioners to whom it has become familiar through actual use. To the Thomsonian, it was a right bower; but, by the same token, it was anathema to his opponents. The amazing results of the modern trials of emetine, after four centuries' common use of the parent plant, lead us to inquire as to what possibly we may find of value in the allied alkaloid present in lobelia inflata.

Lobeline, the liquid alkaloid of lobelia, was discovered by Proctor. Later, Endros found in this plant another principle, which he named lobelacrin. It is to this latter principle that the great Italian pediatrist Laura attributed the irritant effects of the plant, as well as the circulatory and respiratory disturbances and the general depression following maximum doses of it. Lloyd asserts that lobelia is so rapid in its emetic action that poisoning by it is impossible. Cushny says that lobeline increases reflex excitability, hastens the respiration by stimulating the spinal and medullary centers, and causes the breathing to become deeper and stronger. The blood pressure at first falls, but soon rises above normal. The saliva, bronchial mucus, perspiration, and the secretions of the entire alimentary canal are increased. The older writers found that it acted as a vital incitant and that its use was followed by a remarkable sense of extreme satisfaction and repose—of euphoria. The mental powers were unusually active and the sense of wellbeing

even was compared with that following morphine. We now attribute this condition to the elimination of hemic toxins, and recognize it as similar to the euphoria following the action of any cholagog cathartic, but, by the administration of lobeline in minute doses, repeated to a point short of nausea, we secure the same sensation of comfort without inducing active catharsis.

The list of diseases for which lobelia has been recommended is a long one, still, its true place in therapeutics may be stated in few words. Lobelia relaxes spasm and vascular tension, and it increases all the secretions and excretions. As an antispasmodic, it has proved effective in eclampsia, chorea, epilepsy, and even in tetanus—the beneficial effects depending upon its eliminative powers. Asthma, whooping-cough, and the spasmodic forms of chronic bronchial catarrhs are speedily quelled by a sufficiency of lobeline. In acute bronchitis, it hastens the stages by inciting free secretion. Ruatta urged its use, as a relaxant in strangulated hernia. E. Cornet praised lobeline in the spasmodic cough of phthisis, and found its effects "almost magical" in the various forms of croup. As an ingredient of laxative combinations, lobeline is advisable whenever costiveness is present.

Quite recently, Edmunds showed that lobeline acts most powerfully upon the renal, vagus, and superior cervical ganglia, its action upon the inferior and mesenteric ganglia being deferred and incomplete. He found it impossible to stop the heart with muscarine after an injection of lobeline; he noted also that the latter would start the heart after it had been stopped by muscarine. Lobeline should prove useful in poisoning by the fly-amanita, although not by the phalloid variety.

In treating animals, Browne (Clinical Medicine, August, p. 678) found that lobeline is almost indispensable in the tetanus and azoturia of horses. It should prove of great value as a nonnarcotic sedative for the colic or hyperemia caused by renal calculi. It should also be given a trial in spasmodic asthma, spasmodic laryngitis, whooping-cough, hysteria, hysterical convulsions, and eclampsia.

In azoturia in horses, when the animal was almost uncontrollable, Browne found that 1-10 grain of lobeline sulphate rendered the animal perfectly tractable and apparently free from pain.

In emphysema or heaves of horses, injections of lobeline had no apparent effect. Doctor Browne found the respiration greatly increased in rapidity, but observations here were interrupted by vomiting and defecation in from one to two minutes after the injection. The horse's heart, after a preliminary quickening, was slightly slowed, the pulse being full, soft, and regular. Of a total of 36 animals injected, all vomited and all but 4 defecated. No animal showed any depressant or narcotic effect.

A 10-pound dog was not adversely affected by the injection of 1-2 grain of lobeline, and the observer gave up expectations of recording any toxic effects. Salivation was evidenced in the majority of the animals and secretions were stimulated throughout the body.

Lobeline is admirably suited for the intensive method of dosage. One-fourth of a milligram may be administered and repeated every five to thirty minutes until slight nausea indicates the supervention of beginning toxic action. This is absolutely safe, and effective whenever the antispasmodic or relaxant, or the secretion-incitant effects are desired. In eclampsia much larger doses are employed, and the remedy is pushed to full relaxation. A milligram may be added to each dose of a laxative pill, to overcome dryness of the fecal mass. Even to very young infants this "dangerous medicine" has been given as a laxative with the best results.

Lobeline is liked best by those who have employed it most. That there are certain specific virtues in it is their firm belief; and it would be no surprise were it to rival or exceed emetine when modern methods of study and experiment have been applied to it.

Difficult questions are not solved by men but by events.

THE NEW ANTISEPTIC

It is unusual for us to refer to a proprietary preparation in the editorial pages of Clinical Medicine. When we vary from this custom, it is because we believe it our duty to bring to the attention of our readers some product of a very unusual character. This is our explanation for now speaking of chlorazene, the new synthetic antiseptic, in three successive issues of this journal.

For many years the profession has been searching for an antiseptic that at the same time would be highly germicidal and harmless, or at least relatively harmless, to the tissues and to the individual. Chlorazene seems to meet these conditions more nearly than any

antiseptic heretofore introduced. We use the expression "seems to," well knowing, of course, that the exact field and exact indications and possible disadvantages as well as the exact advantages of this synthetic salt can be fully determined only after extended clinical trial. At this moment, we only can say that the reports thus far received bear out the claims made for this substance by Dakin in his interesting paper published in *The British Medical Journal* for January 29 of this year.

This work of Dakin is all the more interesting and, in our opinion, more to be depended upon, because it is disinterested on his part. We are in a position to say that these investigations were carried on and the product put on the market without any expectation of gain. So far as Doctor Dakin is concerned, his study of antiseptics has not been a money-making venture, nor was it expected or desired by him that it should be. The opinions which he has expressed, therefore, with regard to the virtues of this antiseptic, have not been colored by the hope of gain. We make this statement, because it is right that the profession should know the exact attitude of Doctor Dakin and the thoroughly disinterested character of his investigations.

This attitude of Doctor Dakin in this matter has served to increase our own confidence in the value of this antiseptic, which again we wish to commend to the medical profession for careful clinical test in all sorts of conditions where antiseptics are indicated. Reports of experience with it are invited from the readers of CLINICAL MEDICINE, for publication in these pages.

The reason a man has a lot more temptations than a woman is because he knows just where to look for them.—Chicago Tribune.

THE VACCINE-TREATMENT OF INFECTIOUS DISEASES

Some years ago, a Hollandish scientist declared that the study of tuberculosis has entered the phase of immunization. Sir Almroth Wright asserted that the physician of the future will be an immunizator. Indeed, the vaccine-treatment of bacterial diseases has become extremely popular. Some physicians call it a passing fad, others say that it has become a fetish.

In discussing the specific, that is, the directly antagonistic, antibacterial treatment of germ-diseases, we refer complacently to the "modern" treatment, forgetting or neglecting to state that the principle upon which this definite form of therapy rests has been employed by homeopathic physicians for many years and that priority of its application undoubtedly belongs to them. Indeed, the underlying principle is so manifestly in conformity with the "law of similars" that vaccine-therapy may, in a way, be taken as a vindication of Hahnemann's contention. As a matter of fact, claims to this effect are not infrequently being advanced in homeopathic journals, and it would be both undignified and incompatible with a true scientific spirit to do less than give honor where honor is due.

While we are firmly convinced of the great importance and value of the vaccine treatment in diseases owing to bacterial invasion and activity and even are enthusiastic in its support, we, nevertheless, are far from adding or suggesting that it is the be-all and end-all of treatment. As a matter of fact, it would be a grave mistake to limit the treatment of a patient suffering from typhoid fever, for instance, to the injection of a vaccine or bacterin containing so and so many killed organisms, or to dismiss a tuberculous patient after merely injecting a dose of tubercle bacillus emulsion, and expect both these patients to recover forthwith.

That sort of treatment may be expected to work, perhaps, before the disease actually exists, that is to say, before the infecting organisms have succeeded in producing pathological changes in the tissues of the body—before, in fact, the infected person has become ill. But after the bacterial disease has declared itself, the problem confronting the physician has become complicated; and no longer can be solved, but only aided, by the simple injection of a bacterial preparation, no matter how "specific" it may be.

In a case of typhoid fever, for instance, in which the temperature has shown the characteristic ascending curve of the first week, it is too late for typhoid-bacterin to do good; it is necessary to apply systemic treatment; which means, to aim to remedy the pathological conditions in the intestinal tract, to render the buccal cavity and the entire digestive tube as free from pathogenic bacteria as it can be made, and to counteract the results of the existing bacteremia.

In addition to this general treatment thus briefly indicated, there may be various symptoms that require individual attention in order to promote the comfort of the patient. While we no longer consider it proper always to suppress forcibly and at all odds fever-temperature in the patient, it, still, is not advisable to permit the temperature reaction

to the infection to exceed a certain limit of safety, and it is well to take measures in this direction when this limit is exceeded.

Then, if constipation exists, we prescribe suitable remedies for its relief; or, if the opposite condition obtains, we take steps to remove the foul, fermenting, infected and toxic content of the intestinal tract, in order to prevent its absorption into the circulation. We also support the heart in its struggle and in the excessive strain under which it labors. We supply as much nourishment as can be assimilated. We attempt to promote the patient's comfort by sponging and other means as much as is in our power.

While, then, the vaccine treatment of bacterial diseases undoubtedly is an agent of great merit and potency, it will never do to limit the management of disease to it alone; but it is necessary to pay attention to the general hygiene of our patient just as much as has been the case in the past, and even more so.

If this point is considered in its full bearings and in all its possibilities, it will be seen that the "modern specific treatment" by means of bacterins or vaccins is not a shortcut and does not diminish the responsibility or the work of the physician. It is an extremely potent weapon, and all powerful agents must be handled with care and circumspection. The employment of biologic remedies demands a careful study of our patients and of all phases of the cases confronting us. It requires an exact diagnosis as also a full knowledge of all the resources of the patient that need stimulation and support in his struggle against disease.

But, bacteriotherapy has this advantage it eliminates promptly, in successful cases, the leading factor of the infection and of the intoxication dependent upon it, leaving us to deal with the morbid tissue changes that have occurred in consequence of the bacterial activity. With the removal of the source of the disease, it is easier, usually, to deal with the disease itself.

"You can get closer to a man by asking a favor of him than you can by granting a favor."

MUSCARINE AND HEMOPTYSIS

Brunton affirms: "If the pulmonary capillaries are contracted, the left ventricle will receive little blood, and, so, will send little blood into the arteries, although the right ventricle may be much distended. This appears to occur during poisoning with muscarine, which causes the lungs to become blanched, the right ventricle distended, and the left ventricle and the arterial system empty; so that little blood flows from a wound."

Muscarine should be effective in the treatment of hemorrhages from the pulmonary area, if administered in doses sufficient to develop its full action.

Data collected regarding the results of administering atropine in full doses as a remedy for hemorrhages showed its efficacy in every form of bleeding to which man is liable. Very few exceptions were reported, but among them two where it failed in hemorrhage from the respiratory tract.

Since atropine proved invariably capable of controlling passive hemorrhages, it seemed clear that it did so by actively stimulating the vasorelaxants, since, if the action had been a relaxant one directed against the vasocontractors, these passive hemorrhages must have been increased.

The failures of atropine in hemoptysis were exceptional, and many more successes were reported. It may be that where it failed the doses were not large enough, inasmuch as the efficacy of the remedy was apparent only when enough had been administered to flush the skin, engorging the cutaneous capillaries. The capacity of the capillary system being 700 times that of the arterial system, it is easy to see how a slight increase in the lumen of the former would accommodate so much of the blood that there would be none left to escape from an open vessel.

However, the fact is that atropine did fail in several instances of this form of hemorrhage; and, if any other agent were to offer greater probability of success, that is the remmedy of choice.

In this respect, we may advert to the recent use of emetine for pulmonary hemorrhages. Emetine is rather closely allied therapeutically with muscarine, and the success of the former is more presumptive evidence favoring the likelihood that the latter should prove effective.

Muscarine is peculiarly difficult of dosage, since, like other relaxants of vascular tension, it passes out of the body swiftly. Hence, it should be given in very close doses, a milligram every five minutes, until its characteristic effects are manifest. These are softening of the pulse, general relaxation, and coolness of the skin. It should not be pushed to the induction of vomiting, purging, anemic vertigo or muscular weakness. An overdose is speedily overcome by atropine, which, although slower in getting to work, is far more powerful than muscarine. Muscarine ren-

ders the heart beats weaker and slower, and large doses arrest its movements.

This alkaloid might be tried when there is that stuffy feeling in the chest that precedes a hemorrhage. Also, since the consumptive usually is relieved by the bleeding, provided pains are taken to avoid the inflammation excited by dead blood, it seems that muscarine, by lessening the quantity of blood in the lungs, should exert the same beneficial action as a pulmonary hemorrhage. If this remedy also proves useful in relieving the cough, it may be a valuable addition to our therapeutic resources in phthisis.

However flowerless the ways
Of grim November,
However dull and drear her days,
We should remember
One happy time she sets apart
For royal living,
A gift to cheer and bless each heart—
It is Thanksgiving.
—Emma C. Dowd.

THE PLACE OF CALCIUM SULPHIDE IN THERAPY

Since the conquest of South America, more than four centuries ago, ipecac has been one of the commonest of our remedies. For all that, it is within the last few years that we have witnessed an amazing widening of its therapeutic application. When its chief active principle, the alkaloid emetine, was isolated and presented in chemically pure form, the remedial values discovered to be residing in it fairly amazed the medical world. We look upon this fact as the opening-wedge of a revival of interest in drug-therapeutics. Indeed, we may say frankly that there is not a drug described in the dispensatory the limits of whose useful applications are fully known.

It has been but a few years since we discovered in magnesium sulphate properties such as the profession did not dream of during the centuries of its constant daily employment in various ways. What drug will be the next to attract the attention of the medical world to the wonders lying undeveloped in our materia medica?

Just now the remedy apparently most likely to come into immediate prominence is calcium sulphide. For years, our journals have published, from time to time, papers in which favorable mention has been made of this chemical; although thus far no one—outside a certain group—has appeared to be particularly enthusiastic about it. Just now, you know, enthusiasm over any therapeutic measure is rather out of date.

On the other hand, whenever calcium sulphide has been written about, the comments have been significant. Thus, Robinson, in his *Critic and Guide*, quotes a case of gonorrheal rheumatism in which billions and billions of bacilli had been injected, without benefit, after which brilliant success followed saturation of the patient with calcium sulphide. This experience has been repeated by quite a number of other clinicians. The present writer has made a like use of this chemical in many instances and up to the present it never has disappointed him.

In a recent issue of *The New York Medical Journal*, Gray, in speaking of the treatment of German measles, writes: "The one drug that may be commended for its service is calcium sulphide. But it must be an efficient preparation, well protected from the atmosphere." This concluding warning seems to be especially needed with regard to this remedy, the pharmaceutical manipulation of which appears to present unusual difficulty. One eastern firm, some years ago, made public announcement that it had withdrawn all calcium sulphide preparations from its list, having found it impossible so to manipulate it as to be able to guarantee the preparation.

The present writer has had many striking illustrations of the value of calcium sulphide of prime quality, perhaps the most notable more recently being one that happened two years ago. A baby landed in our summer camp with a full-blown whooping-cough. There were more than twenty children in the camp that were not immune to this disease. An examination of the child showed that its banishment would probably result in its death; so, the question arose as to preventing extension of the disease through the camp. Happily, this proved an easy matter: the pertussic baby was saturated with calcium sulphide, whereupon it promptly recovered from the whooping-cough; and although the nonimmune children associated freely with it, not one contracted the malady.

One might be tempted to ask whether it were possible that the disease had reached the noninfectious stage, if such a thing really occurs in whooping-cough—one of the most infectious maladies known to humanity.

This is but an isolated instance, the doubter might suggest; but, when for many years such experience has been unvarying, we may be quite sure of the action of the remedy. Frequently this writer has saturated the children of a family in this manner when one had contracted the disease; and the others,

nonimmune, not only escaped the infection then, but for years afterward proved immune to infection with this particular malady.

The only explanation which seems possible is, that before calcium sulphide was administered they had already contracted the disease to such a degree as to confer the same immunity as those enjoyed who passed through the entire course of the affection.

For twenty years, an unbroken series of similar experiences has occurred to this writer, in dealing with children affected with mumps.

The question now arises, would saturation with calcium sulphide be effectual in warding off an impending attack of infantile paralysis? Since the remedy is harmless, is easily administered, and its effect is quickly and markedly manifested, there seems to be no reason why a widespread experimentation should not be conducted.

In the case of any children under ten years of age, when undoubtedly exposed to the infection of infantile paralysis, we earnestly advise prompt saturation with calcium sulphide. This does not mean that other measures should be neglected, such as putting in order the hygienic surroundings of the child, in and about the residence, careful cleansing of the throat and nose with non-irritant antiseptics, care for the digestion, especially seeing to the functioning of the alimentary canal, and such other measures as the physician may deem justified in each particular case.

Finally, let us have reports of your experiences, whether they be good or bad—especially if adverse.

The world applauds and bows before success and achievement; it has little thought for those who fall by the way, sword in hand; and yet it takes most courage to fight a losing fight.—Edward L. Trudeau.

CARDIANTS

The time is not so long ago when about all that the body of the physicians knew about the therapeutics of the heart was that digitalis acted upon a certain part of our anatomy, the heart. And a dangerous bit of quasi-knowledge it was, too. The heart is not a physiologic entity, an atom, one and indivisible, but an organ containing muscular tissue, nerves, and vessels. Yet, even now the fact that digitalis is employed far more extensively than all other cardiants together leads one to question whether the profession as a body has greatly altered its position or its practice.

Remedies may incite or sedate the muscular tissue, the central or the peripheric nerve-ends or their trunks or alter the caliber of the vessels either by stimulating or relaxing the vasomotors or the vasodilators. In fact, Brunton arranged the cardiant remedies under nine classes, each with two groups.

The cardiac muscle is stimulated by

- Digitalin
- Digitalein
- Digitoxin
- Erythrophlœin
- Helleborein
- Nerein (from oleander)
- Silelain
- Antiaric
- Strophanthin
- Thevetine
- Thenveresin

The above are known as cardiac poisons. Larger doses cause stimulation followed by peristaltic action, and finally arrest of the heart in systole.

Stimulants not included in the above groups are:

- Veratrine
- Barium salts
- Caffeine
- Potassium salts, in small doses
- Copper double salts, in small doses
- Zinc double salts, in small doses

Another group comprises agents that do not cause cardiac peristalsis or arrest the heart in systole, but they excite the heart to pulsate rhythmically, after it has been made to stand completely still in diastole by the application of muscarine. These are:

- Guanidine
- Physostigmine
- Camphor
- Monobromated Camphor
- Borneol
- Arnica camphor
- Aniline sulphate
- Cumarine

In the case of all these, stimulation is denoted by increase in the energy of the contractions, the rate of the pulsations remaining the same or being slower.

Depression is shown by weakening of contractions, with final stoppage in diastole. The heart-muscle is shown to be paralyzed, by no longer contracting on being stimulated by mechanical or electric irritation.

The cardiac muscle is depressed or paralyzed by

- Salicylic acid, in large doses
- Potassium salts, in large doses
- Copper double salts, in large doses

Zinc double salts, in large doses
Quinine, doubtfully
Saponin, which removes the systolic standstill induced by digitalin
Apomorphine
Emetine
Muscarine
Pilocarpine
Veratroidine
Jervine

To these may be added digitonin, which closely resembles other saponins in its action.

The seeker after new knowledge, the research-worker, need not fear that the field of therapeutics has been fully gleaned. The truth is, that it has not been reaped or even skimmed over. Take this example: Go to the best medical library in reach, get out all the modern textbooks on therapeutics and from them tabulate the data on the list of cardiants above given.

One need not go into minute particulars, but state the action of various-sized doses, the time required for each to manifest its activity, the time required to reach its maximum of energy, how long this endures, how much time is occupied by the subsidence of activity, and the routes by which the medicinal principle leaves the system, and how long this takes. Since there are groups of remedies known to affect certain parts of the cardiac organism, such as the muscular fibers, one should know in what respects these differ; for, if the action is identical, the remedial agencies must be identical, and *vice versa*—if these are different, their action can not be absolutely uniform.

But, if you find that all the textbooks published fail to supply this elemental information, kindly tell us why we should look upon therapeutics as a finished, completed study, in which no further advance can be made? Finding that all the therapeutic texts in the world fail to give these primary facts, you will begin to realize with us that we have not yet even begun the investigation, in the modern scientific manner, of our remedial resources.

When this stupendous work shall have been made, then we may begin to observe the action of drugs in combination. The final result must be that we have a cabinet of remedies with which we may affect the disturbed vital functions in the way of restoring physiologic equilibrium and health before material lesions have been effected.

A dream of the millennium? Probably; but neither we personally nor the world at large will be hurt if we seek to produce millennial conditions, each in his own sphere.

The role of the family practitioner is a more important one than the specialistic tendencies—greater in the public than even in the profession—would appear to admit. Both prevention and cure, mainly the former, are his duty and his privilege.—Abraham Jacobi

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THE NONOPERATIVE TREATMENT OF GOITER

Consciously or otherwise, we all tend to move along lines of least resistance. In the case of goiter, it seems the easiest method to ship the patient off to Rochester, Minnesota, with our best wishes for the results.

There still is, however, a remnant of the profession who believes that an effort to cure a diseased organ must sometimes be successful, at least often enough to make it worth while trying before condemning it.

Take, for instance, that form of goiter likely to develop in young girls at the period of puberty. There assuredly subsists some association between the thyroid-malady and the tremendous change taking place in the constitution of the girl at this time. It certainly does not seem unreasonable to entertain a belief that methods of treatment may be put into operation that will check exuberance of both functions and reduce them, aided by the gentle influence of time, to a physiologic level. We have long advocated the change in the relations of the physician to the community that would make the former the adviser with a view to preventing, rather than treating disease.

It seems as if the development of the medical profession and of the general intelligence of the community has progressed to such a degree that children may be brought up under the advice of the physician, instead of never seeing him until they are stretched upon the bed of pain. At what time of life is the sanitary direction of the family of greater importance than when the young girls are passing from girlhood into womanhood? The development of some physical or mental disease that is influencing the entire future life often can be traced to improper management during the years of incipient puberty.

Just as we had reached this interesting point in our discourse, chance threw into our hands a copy of a journal published by a certain set of medical practitioners who still believe in the utility of strictly medical services—if they are not so oldfashioned even as to consider that the potent qualities inherent in drugs may be utilized for the

benefit of humanity. In the journal in question, we find a paper upon goiter in young girls, and from this we extract the following passages:

"Wilkenloh (*Ellingwood's*) reports several cases of goiter treated by injecting echafolta into the tumor. One was in a girl of 15, whose right thyroid had enlarged after mumps. She had shown symptoms of tuberculosis at puberty, menstruation irregular, otherwise well nourished. Echafolta, 1 to 2 mils (Cc.), was injected into the tumor every third day; and internally she was given macrotys, echinacea, and scutellaria. The tumor disappeared after three weeks' treatment.

"A girl of 11 had a vascular central goiter, also albumin and sugar showed in her urine. The goiter disappeared after three injections of echafolta. At 21, she married and during pregnancy the goiter returned. Glycosuria persisted until delivery, after which the tumor slowly subsided. No hypodermics were used during pregnancy, but the woman took, internally, macrotys, pulsatilla, nux, echinacea, and amenopsis cal. Without this, the author asserts, the goiter will increase after delivery; with it, the goiter and glycosuria vanish with birth.

"A boy of 17 had goiter following pleurisy—central, soft, with high blood pressure, dysphagia, harsh voice, anemia, and great nervousness. The fluid from the thyroid was bloody, tenacious, containing tubercle bacilli, with streptococci. Great cardiac disturbance, thyroid pulsation quite evident, pulse and heart beat violent. This lasted two days. Injected into the tumor veratrum, 1 to 1 1-2 mils (Cc.), three times in two days; applied libradol thinly over tumor; in two days, the tumor was smaller, heart weak, tension low. Stopped both remedies, gave belladonna and cratægus, with lobelia subcutaneously, injected into thyroid daily for seven days, 16 to 20 minims. The goiter disappeared. After this, the patient had only internal medicine—nux, trifolium, and a meat-free diet. Four years later, there had been no return and the lungs were sound. During the illness, the patient suffered from coughing when he lay in a position that allowed compression of the vagus. This was relieved by tela aranea dropped on sugar.

"A boy of 11 had tuberculous cervical adenitis; thyroid enlargement; injected echafolta into tumor, 1 mil (Cc.) every third day, raising to 3 mils (Cc.). The tumor subsided. Another appeared in the axilla some weeks later and was treated similarly. The high blood pressure fell. He was very nervous. The axillary injections were painful. He could not lift the arm for twenty-four hours after each, without suffering. Libradol over this tumor eased the pain and promoted dissolution. Internally, he had iris, phytolacca, echinacea, and fucus. The tuberculous masses gradually disappeared.

"A pregnant woman of 24 years; soft, fluid goiter; diabetic; urine, sp. gr. 1042; sugar and albumin; same trouble with first child, but subsided under treatment. Between pregnancies, had gonorrhea. Treatment has kept the goiter in check; but has not cleared up the sugar. Patient will not adhere to diet."

Whether we accept the author's beliefs and conclusions or not, it is certainly refreshing to find that there still remains somebody who believes in the active and hopeful intervention of the physician; and that the ailment, not necessarily destructive of the organism affected, may be tided over; and health may be reestablished with the assistance of good, kindly old Dame Nature; this result being, by no means, unaided by the doctor's efforts.

It is edifying to compare the simple faith underlying the administration of the remedies in question with the half-hearted, pessimistic way in which the ordinary doctor administers his placebos, with which to fill in the time until the patient's mind has become reconciled to the necessity of operative intervention.

Nothing is easier than for those who have never employed the remedies in question to proclaim their utter disbelief in their efficacy. There may be some among the many thousands of readers of this journal who can truthfully say that they have earnestly and justly given full trial to the methods of treatment mentioned in cases similar to those described, and, yet, have not accomplished useful results. Unless one can say this, it is idle to assert that there is no value in medical treatment. One does not have to believe the reports that are published. Yet, several things are necessary before one has a right to express an opinion on any topic of medical practice. Certainly, it occurs not infrequently that, when one endeavors to put into operation the methods and remedies prescribed by a colleague, the second does not win the success asserted by the first. But there are several explanations of this phenomenon. One is, the lack of skill on the part of the second practician. Another is, a variation in the conditions, either in the disease itself or in the patient's environment.

Possibly a difference in the quality of the drugs employed occasionally may account for

the notorious differences of opinion among physicians, as to the value of therapeutic measures in seemingly similar cases. When these differences are manifested, however, it seems that the right way is, for all parties concerned to compare their cases carefully and ascertain in what points the difference lies and what may be the underlying conditions. One may not have diagnosed his cases correctly. He may really think that he is treating and curing certain diseases, which, however, are not present. Many a man attributes a cure to the remedies which he has given, when something else has been at work.

There are a good many things about our cases which we do not know. This writer will never forget the apparently brilliant results following the treatment of a young girl for a grave form of nephritis, when he still was a medical student. The efficacy of the treatment, however, was rendered somewhat doubtful by the discovery of numerous spermatozoa in the patient's urine. There were also tube casts and albumin, characteristic of her disease, which were found to be present in undiminished quantities.

It is the law that he who gives greatly of himself to life in love and kindness and sympathy receives back tenfold what he gives: while he who demands all as by divine right, is denied in exact proportion to his demands.

A NOVEL VIEW OF ACIDOSIS

Sweltering through a summer doubly hot, in contrast with last-year's coolness, weakened to a marked degree by perspiration, with its consequent loss of the saline elements of the blood, we were suddenly reminded of a friend who had stood us in good stead under similar conditions—Horsford's acid phosphate.

In years gone by, advertisements of this preparation could be found in the pages of almost every medical journal of standing, but for a very long time these scarcely have appeared in print. Probably the reason for this was the substitution of another preparation, known as compound phosphoric acid mixture, which had been advised by certain authorities. We well remember when this latter preparation first was advocated. We prescribed it, but when the retail pharmacist charged for it exactly double the price that he had formerly received for the original our interest in it declined.

Then it happened that we discovered a bottle of Horsford's phosphate upon the shelves of a neighboring pharmacy, and we and members of the family began to use it, with relish and benefit. But, just as we were beginning to congratulate ourselves upon the new acquisition, we received a number of *American Medicine*, which was devoted entirely to the subject of acidosis.

Acidosis! Reading the article, our eyes were opened to the terrible mistake we were making. Our great blunder in using this acid had been detected and, yet, not only were we partaking of the acid phosphate, but we had incurred the fearful risks entailed by pouring vinegar on our salads and squeezing lemon juice on our sardines. How *could* a doctor be so thoughtless! How could our professional predecessors possibly have fallen into the error of finding an increased percentage of cures of typhoid fever, when an acid was systematically administered in all such cases? What were we thinking about when we administered the tincture of chloride of iron, with its content of the powerful hydrochloric acid, and prescribed this same acid, together with pepsin, habitually for every patient who showed feebleness of stomach-digestion?

Evidently we have been wandering, childlike, along the brink of a yawning precipice. And how it has happened that we did not tumble over is one of those mysteries that no man can fathom. Really, we should be tempted to revert to the ancient belief that some angel-hand was keeping us away from the perilous brink, were it not for a well-founded conviction that the celestial section of the supernatural world had long since given us up as a bad job and that the only immaterial beings concerned in us would probably have given us a sly shove.

From the one hundred or more pages of the excellent number of *American Medicine* referred to, we learn that the science of medicine has been reduced to such a degree of simplicity that it seems incapable of further advance in this direction. Etiology and therapeutics, we are told, at last are established on a firm basis. The cause of disease is, acid; the remedy is, soda. Why need we worry about the habits of our patient, the hygienic condition of his environment, whether he uses tobacco or alcohol or drinks no water? Why not wait until the patient is a walking cesspool and let the raging bacterium rage until it gets tired? These things are of no consequence whatsoever. No matter what may be the complaint of our patient, just hand him a big rectangular package, imprinted with the device of an arm holding a sledgehammer, and tell him to whack

away at it until the last fell molecule of acid is exterminated.

We knew before that in saccharine diabetes the presence of acidosis is fraught with the greatest of dangers. We now learn that excessive vomiting in a child is due to the same cause. The child in the mother's womb is not safe against it, since the toxemia of pregnancy is a result of acidosis. The surgeon blames acidosis for spoiling the results of his operation, but, singularly enough, has not yet devised a surgical stunt for its removal. The most disastrous maladies affecting the human brain as well as the most exasperating affections of the skin are to be attributed to the same source. It is the peril of the anesthetist; it snuffs out the breath of life from the asthmatic; to it is credited the grouchiness of age. The piteous lacrimation of the hay-fever victim is nature's plea for soda. The convulsion of the epileptic is a visual protest against this arch-enemy burgeoned on the nerve-centers. The remarkably high cost of living of the past year or two, which has induced so many of our colleagues to forego a new summer outfit this season, should be directly attributed to the European war and the enormous consumption of acid required to carry on modern warfare. The great ferocity of the world-conflict undoubtedly is due to the fact of its being waged for the possession of the famous springs of Vichy, the principal source of soda for the eastern world.

We have simply skipped over our subject, touching airily a few of the higher points, but would suggest to our readers that they secure a copy of the number of *American Medicine* in question and in an hour's time appropriate to themselves an epitome of modern pathology. Were one financially qualified, he might first go out and corner the visible supply of the alkali, before the information contained in this remarkable magazine shall have become public property. One desirable result might be, to establish a market for the surplus alkali of the western plains in which the soda-salts predominate.

More seriously: returning from his last European trip, Doctor Talbot spoke to the present writer of the enormous popular use made in France of soda, and of the many ways in which this substance is being prepared for palatable taking, and offered, not only at pharmacies, but by grocers, in tablets, effervescent combinations, and other forms. The advance of science frequently reveals to us the true underlying reasons for popular habits, and this holds good as to soda.

The laboratories have demonstrated some astonishing powers residing in this alkali, in its capacity of sustaining and stimulating the vital forces, as opposed to the paralyzing influences of magnesia. This action can not be attributed to any neutralization of a blood-acid; for, Crile has shown that acidemia is an impossible condition, and that we should speak rather of a more or less pronounced sodium-deficiency. Sodium is a nutrient substance, an essential element of the body, and not to be looked upon as a drug. This explains the constantly growing demand for a certain effervescent form of alkali, which as we are informed by its manufacturer, was introduced a few years ago and was not pushed by advertising, but was just left to sink or swim, as its merits developed. The demand for this preparation may, consequently, be taken as the legitimate verdict of the medical profession upon its applicability, and this demand has grown to almost incredible figures. One might ask whether the remarkable showing made by the French in the great war may not be attributable to the free general use of soda—but nobody who has watched the work of France since 1871 needs any explanation of their prowess.

As a matter of fact, the vegetable acids really promote blood alkalinity, and the citrus-fruits are most efficient remedies for acidosis. It is doubtful whether the so-called acid phosphate acts like the other mineral acids, for, clinically it seems to belong to the vegetable-acids group. If so, we are vindicated and may jubilate over the fact that our observations on the value of phosphoric acid are, in truth, harmonious with the trend of modern opinion, as shown in the journal whose fine presentation of the acidosis-matter forms the basis of this screed.

The day has come when the physician should look upon the patient, not as an ignorant child, but as a human being endowed with more or less natural intelligence, as one, in fact, who has the right to demand an explanation of the way certain effects follow certain causes.—Lawrason Brown.

THE CHEMISTRY OF FOOD IN RELATION TO NUTRITION

The role played by the various saline constituents of the food at last is being determined with scientific accuracy. To Almroth Wright, we owe direction of professional attention, universally and powerfully, to the symptoms traceable to calcium starvation. Salt ($NaCl$) plays a very peculiar part. Essential as it is, under some circumstances, this familiar table-condiment becomes a danger. Inject into the veins a salt-solution

isotonic with the blood-serum, and the kidneys at once begin to let slip through the sugar held in the blood. But, if to the chloride-solution we add a little of potassium, magnesium, and calcium salts, much larger quantities of the sodium-salt may be injected into the veins without inducing glycosuria. Then, what is required is, a "balanced ration" of the mineral constituents.

Remove a turtle's heart, place it in a moist, warm container, and it will continue to beat for hours. Immerse it in an isotonic solution of sodium chloride and it soon ceases to beat. Then add a little calcium-salt solution and the beating is resumed. Push the calcium, and the diastole weakens, until the heart stops in systole. Then we can start it again by adding potassium, but, by increasing the dose, we finally stop the heart in diastole. One almost incredible point brought out in the studies being conducted at the University of Wisconsin is that the experimental animal was not able to adjust the proportion of mineral constituents in the food, so as to escape injury, to anything like the extent commonly assumed.

Another exceedingly important observation in these investigations was that by which it was determined that wheat-grain and straw contain a principle that is poisonous to cattle and hogs. Neither organic fats nor saline combinations sufficed to overcome this toxin. It was established that this toxic principle exists in the oil of the germ, and that the germs freed from this oil are harmless. The inorganic elements of the wheat-germ required the addition of salt, when the special factor represented by butter-fat was deficient, before growth would start. This is why we must butter our bread.

A further significant observation was made, namely: when, to fat-free wheat-germs, dextrinized starch, butter-fat, and the proper salts, were added, growth took place at an almost marvelous rate; the mixture containing only one-third of the protein when the entire wheat-kernel is given. The wheat-germ is rich in nuclein, and this is not contained in the oil. That a preparation of wheat-germ containing the nuclein should stimulate the vital processes, as shown by a growth almost marvelous, is no surprise to those who have become familiar with wheat-nuclein therapeutically.

An admission for which we are scarcely prepared is that of Prof. McCollum, to the effect that no laboratory manipulation can determine the nutritive value of any food, but that it must be tried "on the dog."

To make it a perfect food polished rice not only requires the addition of protein, butterfat, and salts, but the water-soluble "B" factor, as found in wheat-germs must be present. Here is a suggestion for the devisers of baby-foods.

All grains lack the peculiar factor "A" present in the fats of eggs and butter, but which is especially abundant in alfalfa. The water soluble factor "B" also is abundant in alfalfa-leaves. Young animals were grown to normal size on a mixture of alfalfa-flour, 40 percent, and polished rice, 60 percent.

Eward, of Iowa, had good success in feeding pigs on the cafeteria plan—letting them eat what their appetite preferred. But, McCollum's rats did not grow anywhere near as well as those for whom the food was selected paternalistically. Even the monotony of a diet of 50 parts corn, 30 parts alfalfa-flour and 20 parts cooked peas did not impair growth or reproduction. Ergo: the animal does not select as well, by instinct, as does the scientist from knowledge.

The late Doctor Sudduth went to much pains and expense to introduce alfalfa as a food for man. He gave a dinner here, in which every dish contained alfalfa as a component or a flavor. He also increased the nitrogenous principles of the plant by careful selection and propagation. His work was but just beginning to bear fruit when unfortunately, he was carried off by pneumonia (the fatal outcome being determined, undoubtedly, by an organic heart malady which he had had for many years).

The preliminary steps have been taken, what now remains is, for the commercial handlers to introduce alfalfa in forms available for human use and then by judicious publicity to render the public familiar with it. The observation, above quoted, of the sufficiency of mixtures containing this forage may serve for a guide.

We look to see alfalfa-flour adding materially to the world's food supply, increasing the growth of the young and the reproductivity of the adult, while at the same time it solves the question of the increasing cost of living, by presenting large quantities of nutritious pabulum, produced at a cost of about one-fourth of a cent per pound. Attention, O ye capitalists!

CHLORAL—IT HOLDS ITS OWN

Despite the constant appearance of new hypnotics, the oldest of all of them, chloral hydrate, still holds its own. In fact, we

have heard experienced clinicians express the conviction that not one of the newer introductions equals this old standby.

A recent French writer, Martinet, comes out boldly in defending chloral against what he claims are erroneous charges made against it and have led to its neglect. Thus, he thinks the warning against the use of this agent in the presence of heart trouble is unwarranted. The prevailing impression concerning its dangers he ascribes to the results of experiments when toxic doses were injected into the veins of animals. As a matter of fact, depression of the heart-muscle does not occur until enough chloral has been given to depress dangerously the respiratory and cardiac centers. Many patients have taken an ounce of chloral a day, without the circulation being influenced injuriously. Tolerance has not been found to result when chloral had been administered daily for prolonged periods.

The chronic toxic action of chloral is especially exerted upon the nerve-centers, those of the vasomotors; but not upon the heart. Martinet finds that the combination of chloral with the bromides is employed by very many physicians for the relief of general spasm and that of the blood-vessels, especially when connected with high vascular pressure, whether there is insomnia or not. Brunton has suggested that when marked vasodilatation and loss of heat results after the administration of chloral the patient be kept warm.

Martinet also calls attention to the value of chloral when there is a scanty secretion of urine, in the presence of insomnia and high blood pressure, especially when the latter results from nervous excitability, with consequent constriction of the renal vessels. Where the excretion of urine is diminished materially, in certain cases, sleep is induced by chloral, followed, on awakening, by an abundant flow of urine, and also a sense of wellbeing, relaxation of the nervous system, and improvement in respiration. The drop in the systolic blood pressure, which may attain 30 or 40 millimeters, is coupled with a corresponding fall in the diastolic tension; thus showing a peripheral as well as renal vasodilation.

Pilocarpine has been used in doses so large as to cause constriction of the renal vessels, arresting the flow of urine; then a small dose of chloral has overcome this difficulty. We believe that the combination of chloral and caffeine often is of value as a diuretic.

A contraindication to the use of chloral is found in vascular asthenia of nervous character, with low blood pressure and somnolency, whether the urinary output has been reduced or not.

While instances of poisoning from chloral are not common, yet, they undoubtedly occur in practice, and more than one good clinician has been terrified by the sudden appearance of collapse following even very moderate doses of this drug. This has been ascribed to the formation of some other and more toxic substance, through the action of the digestive fluids on the chloral; or, more probably, to its combination with other remedies, for, we think that chloral has been one of our most abused drugs.

As a rule, these artificial chemical compounds should not be prescribed with each other or with remedies of other classes. Their chemical reactions and their action are, by no means, certain and disaster may result from a combination of remedies which, taken alone, are harmless. The tendency to polypharmacy is so great in the profession, however, that giving single remedies with a distinct purpose is almost unknown.

Despite the able presentation in favor of chloral by our French colleague, which the reader may find in abstract in *The New York Medical Journal* for July 29, the present writer has little use for chloral. The clinician who has studied insomnia and its factors, and the high blood pressure, will have more directly effective remedies in gelseminine and the other vasorelaxants. This writer has not prescribed a dose of chloral for years, but it happens that his supply of gelseminine requires constant renewal. He does not see how it would be possible for any person at all fit to administer medicines to do any harm with gelseminine. In the case of veratrine the irritability of the stomach occasioned by it is so great as automatically to stop its administration long before the point is reached when it might depress the circulation injuriously.

Gelseminine is one of the surest and most manageable of drugs. The present writer has given many thousands of doses of it and has yet to see any ill consequences, immediate or remote, occurring from its use. He always has administered these remedies singly, because the indications for them are so clearcut and precise that there is no excuse for polypharmacy. It appears that gelseminine probably is indicated twenty times more frequently than veratrine, the latter being a very powerful remedy, usually held in reserve and being used in cases that are not easily controlled by gelseminine.

Leading Articles

The Alkaloidal Phosphotungstates

A New Class of Alkaloidal Salts

By Carl Nielsen, Ph. C., Chicago, Illinois

A New Class of Alkaloidal Salts

THE powerful active principles derived from plant-drugs are, as a rule, administered in the form of soluble salts. These compounds, as also the basic alkaloids themselves, very often possess a very bitter taste, while some of them will produce irritation of the stomach-wall even in therapeutic doses. Thus, for instance, emetine, one of the most valuable active principles, can not, as we know, be administered practically in full dosage by mouth—either in the form of the pure alkaloid or of the hydrochloride, or of another known soluble salt, because of its pronounced irritant action upon the gastric lining, which causes the patient to vomit it up before it has had time to produce the desired effect. Other active principles, quinine and strychnine, for example, are so extremely bitter that the patients, especially children, refuse to take them in uncoated tablets or in solution.

These highly undesirable properties of a large proportion of our potent alkaloids have been recognized for years and many attempts have been made to remedy them, but without real success. It was with these facts in mind that I took up, some months ago, the study of the phosphotungstates.

Phosphotungstic acid has been known for many years as a reagent for alkaloids, with which it forms insoluble or at least practically insoluble combinations. But not only alkaloids react in this manner with phosphotungstic acid; it has been in use in chemical research as a means of separating organic principles of different chemical nature by the precipitation of some of them as phosphotungstates, as, for instance, the active amines in ergot, the glucosides of various plants, and the active substances of the pituitary gland. In the manufacture of betaine (trimethylglycocoll), this latter substance is separated by precipitation with phosphotungstic acid.

The Alkaloidal Phosphotungstates as Medicina Agents

In view of the property of phosphotungstic acid to form insoluble or practically insoluble combinations with almost all the active principles of the plant-drugs, and as most of these phosphotungstates are tasteless (or practically so), insoluble in dilute acids and easily decomposed by alkalis, the possibility of using them in medicine was investigated.

The first three phosphotungstates to be studied were those of emetine, quinine, and strychnine. These three compounds are all insoluble in water and in dilute acids. When administered by mouth, they pass the stomach unchanged, but upon entering the duodenum they are gradually decomposed during their passage through the intestinal tract as the various alkaline secretions act upon them. The alkaloid is set free and at the same gradual rate absorbed through the intestinal membrane, together with the soluble salts of the phosphoric and tungstic acids (presumably mainly sodium phosphate and sodium tungstate) that are formed at the same time.

When alkaloids are thus administered as phosphotungstates, they exert their full physiologic action, without causing any unpleasant effects upon the stomach. However, before the phosphotungstates can be used in medicine, it remains to be seen whether the mineral tungstates formed in the intestinal tract are, in any manner, harmful to the system or interfere with the action of the active principle itself.

Below is a report on the preliminary animal experiments conducted with the three alkaloidal phosphotungstates in question.

Emetine Phosphotungstate

The phosphotungstate of emetine contains approximately 19 percent of emetine, 3.7 grains of emetine phosphotungstate equaling

in emetine content 1 grain of emetine hydrochloride. It is a fine pinkish-gray tasteless and odorless amorphous powder, insoluble in water, dilute acids, alcohol, and ether. Alkalis decompose it, precipitating the free alkaloid, under formation of the soluble tungstates and phosphates. It is also decomposed by concentrated sulphuric and nitric acids.

Animal Experiments, Series 1

Dog No. 170. Weight, 20 pounds; male.
Oct. 1. – 1 grain emetine phosphotungstate, orally; no visible symptoms.
Oct. 2. – 2 grains emetine phosphotungstate, orally; no visible symptoms.
Oct. 4. – 8 grains emetine phosphotungstate, orally; no visible symptoms.

On October 7, the dog was anesthetized with trichlorbutylalcohol and prepared for a blood pressure test. The solution for testing was prepared by dissolving 2.52 Grams of phosphotungstic acid in 5 mils (Cc.) of water, neutralizing with sodium hydrate, and adding sufficient water to make a total of 9 mils (Cc.). Of this solution of sodium phosphotungstate, 1 1-2 mils (Cc.) corresponds to 0.42 Gram of phosphotungstic acid; which, again, corresponds to 0.5 Gram of emetine phosphotungstate (7.2 grains)—a relatively large dose if administered internally, and certainly very large for intravenous injection.

The dog was given an injection of 1 1-2 mils (Cc.) of the above-mentioned solution into the femoral vein. The blood-pressure rose immediately, and continued to rise until it was 54 mm. above normal. It then fell gradually during an hour and a half, when it was again normal.

Dog No. 172. Weight, 38 pounds; male.
Oct. 16.—1 grain; no symptoms.
Oct. 17.—1 grain; no symptoms.
Oct. 18.—1 grain; no symptoms.

Dog. No. 173. Weight, 20 pounds; male.
Oct. 16.—1 grain at 8 a. m. 1 grain at 12 m. 1 grain at 5 p. m.; no visible symptoms.
Oct. 17.—1 grain at 8 a. m. 1 grain at 12 m. 1 grain at 5 p. m.; no visible symptoms.
Oct. 18.—1 grain at 8 a. m. 1 grain at 12 m. 1 grain at 5 p. m.; no visible symptoms.

The dog was bled to death. Postmortem examination: Stomach practically normal; intestines also normal, except the lowest portion, where the mucous membrane showed a slight hyperemia. Kidneys were slightly congested. Bladder normal.

Dog. No. 174. Weight, 21 pounds; male.
Oct. 19.—3 grains at 8 a. m.; no symptoms. 3 grains at 12 m.; slight attack of vomiting at 1 p. m. Fed at 3 p. m. Vomited approximately one-third of the food at 4:45 p. m.; peristalsis at same time. 3 grains at 5 p. m.; no symptoms.
Oct. 20.—3 grains at 8 a. m.; slight attack of vomiting at 8:30. 3 grains at 12 m.; no symptoms. Given a little food at 3 p. m.; neither vomiting nor diarrhea followed.

The animal was bled to death the next morning. Postmortem examination: Stomach practically normal; hyperemia of the intestines, except of the colon, which was slightly irritated. Bladder slightly irritated. Slight congestion of the kidneys.

Dog No. 176. Weight, 30 pounds; female.
Oct. 19.—7 grains at 9:30 a. m.; vomited once at 1 p. m.
Oct. 20.—7 grains at 9:30 a. m.; vomited once at 10:50 a. m.

The dog was given a larger amount of food than usual at 3:00 p. m. on both days. Neither vomiting nor diarrhea followed the meals.

The dog was bled to death. Postmortem examination: Slight hyperemia of the lower part of the stomach-wall and the intestinal tract down to the cecum. Enteritis of the cecum and colon. Pronounced congestion of the kidneys. Bladder-wall markedly irritated. (Found to be chronic and not due to the drug).*

Dog No. 177. Weight, 30 pounds; male.
Oct. 20.—Given 7 grains of phosphotungstic acid, in a gelatin capsule, by mouth. Vomited ten minutes after this dose, and a second time twelve minutes after the dose.

Dog. No. 178.—Anesthetized with morphine sulphate and trichlorbutylalcohol and prepared for blood-pressure test.

One gram of phosphotungstic acid was dissolved in 10 mils (Cc.) water, neutralized with sodium hydroxide, and sufficient water added to make a total of 15 mils One mil of this solution was injected into the femoral vein. This dose caused a rise of blood-pressure of approximately 20 mm., which was sustained for only a few minutes. As soon as the blood-pressure had become normal, both vagi were cut, then the dose was repeated. This second dose caused a still higher rise of blood-pressure. It is, therefore, probable that the tungstate of sodium acts peripherally, by stimulating the

*The postmortem examinations were made by Dr. C. A. Zell, pathologist of The Abbott Laboratories.

sympathetic nerve-endings and contracting the muscular walls of the blood-vessels. Its action is, presumably, somewhat like that of the barium salts. This point will be investigated further.

Judging from these results, phosphotungstate of emetine, when administered orally, in therapeutic doses, causes no discomfort, no irritation of the stomach and intestines, no vomiting or diarrhea. Both phosphotungstic acid and emetine are powerful emetic agents when given separately. In combination, they lose this action, because the salt phosphotungstate of emetine is insoluble in water and dilute acid and passes the stomach unchanged. Very large doses of this emetine compound produced vomiting in some dogs but not in others. The attacks, however, were slight and nothing as compared with the violent vomiting caused by correspondingly much smaller doses of emetine hydrochloride, and they were diminished or entirely avoided when the animals were given only little or no food during treatment.

The more or less congested kidneys in all of the dogs examined after treatment, and the slight irritation of the bladder in some would seem to indicate that the phosphotungstic acid is excreted, partly or entirely, with the urine.

Analysis of Stomach Contents After Oral Administration of Large Doses of Emetine Phosphotungstate

Two female dogs, weighing approximately 15 pounds each, were chosen for these tests.

Nov. 5.—The dogs were given, by mouth, 2 grains each of emetine phosphotungstate, in a gelatin capsule, on an empty stomach. Exactly one hour after this dose, the stomach of each dog was washed out with distilled water and the contents gathered in a flask and tested separately.

Method of testing: The contents were rendered alkaline with ammonia and shaken frequently during a period of approximately one hour. The mixture was poured into a separatory-funnel and shaken with ether, which would dissolve the alkaloid emetine precipitated by the ammonia. The ether-extraction was filtered, the ether evaporated at room-temperature, and the residue taken up with dilute hydrochloric acid. This solution was shaken with ether, so as to free it from fatty and other substances, again separated, then filtered. A small sample was tested with Mayer's reagent, the remainder evaporated to dryness on a steam-bath, then tested with molybdic acid in concentrated sulphuric acid.

Result: Both stomach contents gave negative reactions.

November 8.—The dogs were fed at 3 p. m., and five minutes after the meal each dog was given 2 grains of emetine phosphotungstate, in a gelatin capsule, by mouth. Exactly one hour after this dose, the stomach of each dog was washed out with distilled water, the contents were gathered in separate flasks and tested according to the method described above.

Result: Both stomach contents gave negative reactions.

Thus, emetine phosphotungstate, when administered internally to dogs, either on an empty stomach or shortly after the meal, leaves the stomach and enters into the intestinal tract in less than one hour.

According to these results, emetine phosphotungstate would seem to be a desirable preparation for internal emetine-treatment.

Emetine phosphotungstate offers the following advantages: It is tasteless; it causes no gastroenteritis, no vomiting and no diarrhea when administered in therapeutic doses. The small amount of phosphotungstic acid introduced into the system with therapeutic doses of emetine phosphotungstate apparently causes no harm whatever.

Quinine Phosphotungstate

This salt contains approximately 16.34 percent of quinine. 4.65 grains of quinine phosphotungstate corresponding in quinine content to 1 grain of quinine sulphate, U. S. P. It is a fine yellow odorless amorphous powder. When applied to the tongue, it is first tasteless, but gradually a bitter taste develops. An addition of sodium chloride diminishes this bitter taste considerably. Solubility and chemical properties are the same as those of emetine phosphotungstate.

Animal Experiments, Series 2

Puppy, male, weight 10 pounds. Received 4.65 grains (corresponding to 1 grain quinine sulphate), in a gelatin capsule, three times a day for ten days. There was no visible change in the condition of the animal during or after this course. The result of this experiment would tend to show that relatively large doses of phosphotungstic acid can be administered in the form of this or similar insoluble compounds, without causing undesirable effects. This young puppy received the amount equivalent to approximately 3.9 grains of phosphotungstic acid three times a day for ten days, or a total dose of approximately 117 grains

The results of the animal experiments mentioned in this preliminary communication are, of course, not sufficient to guarantee a harmless and nontoxic action of the phosphotungstic-acid radical in the insoluble combinations of this nature, but they point toward the possibility of its advantageous use in medicine and encourage further experimentation (feeding and other experiments).

Strychnine Phosphotungstate

Alkaloidal content 23.9 percent, 3.26 grains of strychnine phosphotungstate being equivalent in strychnine content to 1 grain of strychnine sulphate. It is a fine light pinkish-brown odorless and practically tasteless amorphous powder. Solubility and chemical properties are the same as those of the emetine and quinine salts.

Animal Experiments, Series 3

In order to compare the toxicity of the strychnine phosphotungstate with that of the sulphate, these two salts were administered by mouth in proportionate doses to a series of frogs and, later, to dogs. The frogs received the doses in the form of a small tablet (1-2 grain) made of a trituration of the salt with milk-sugar in the exact proportions. The dogs received the pure salts in gelatin capsules.

I. Experiments with frogs recently caught

STRYCHNINE SULPHATE

Weight of frog	Dose	Onset of tetanus minutes
	Gm.	
30 Gm.	0.002	2
30 Gm.	0.001	24
30 Gm.	0.001	13
30 Gm.	0.0005	35

STRYCHNINE PHOSPHOTUNGSTATE

Weight of frog	Dose	Onset of tetanus minutes
	Gm.	
30 Gm.	0.00326 (cor. to 0.001 sulphate)	90
30 Gm.	0.00163 (cor. to 0.0005 sulphate)	180
30 Gm.	0.00163 (cor to 0.0005 sulphate)	200
30 Gm.	0.0008 (cor. to 0.00025 sulphate)	4 hours

II. Experiments with frogs kept in a tank for 1 1-2 months during the hot weather. They were physically in a poor condition

STRYCHNINE SULPHATE

Weight of frog	Dose	Onset of tetanus minutes
	Gm.	
20 Gm.	0.0005	1
20 Gm.	0.00025	5
20 Gm.	0.000125	10

STRYCHNINE PHOSPHOTUNGSTATE

Weight of frog	Dose	Onset of tetanus minutes
	Gm.	
20 Gm.	0.00163 (cor. to 0.0005 sulphate)	40
20 Gm.	0.0008 (cor. to 0.00025 sulphate)	60
20 Gm	0.0004 (cor. to 0.000125 sulphate)	5 hours

III. Experiments with dogs

Strychnine phosphotungstate 0.01 Gm., administered by mouth to a dog weighing approximately 10 kg. produced only very slight symptoms of increased reflex irritability.

Strychnine phosphotungstate, 0.04 Gm., administered to another dog of approximately the same weight produced severe strychnine symptoms with fatal result.

Dog, male, weight 7 kg., was given 0.021 Gm. of strychnine phosphotungstate (0.003 gr. per kg.) by mouth in a gelatin capsule.

Distinct symptoms in three-quarters of an hour after dose, i. e., stiffness of hindquarters, tremor, increased reflex irritability, and so on. First and only convulsion one and one-half hours after the dose. The distinct symptoms lasted approximately three hours. The dog recovered.

Four weeks later, this dog was given 0.0065 Gram of strychnine sulphate by mouth in a gelatin capsule. This dose corresponds approximately in strychnine content to the dose of strychnine phosphotungstate administered four weeks previously.

Distinct symptoms, 25 minutes after dose.
First convulsion, 30 minutes after dose.
Second convulsion, 40 minutes after dose.
Third convulsion, 55 minutes after dose.
Fourth convulsion, 75 minutes after dose.
Fifth (very slight) convulsion, 2 hours after dose.
Sixth convulsion, 3 1-2 hours after the dose.
The dog recovered.

In conclusion, it may be said with reference to these results, that the strychnine phosphotungstate has a more gradual and less toxic action than the sulphate. Whether this is due to the physiologic action of the phosphotungstic-acid radical or simply to the slow and gradual decomposition of the strychnine phosphotungstate in the intestinal canal, and consequently slow absorption of the strychnine alkaloid through the intestinal membrane, is a question which must be further investigated.

If a new idea requires only twenty years or so, to be appreciated, there is no cause for being discouraged.

The new (?) therapists are just beginning to learn the importance of intestinal toxemia. "The popular present-day name for this condition," says Willson in his admirable paper on "Cardiovascular Poisons," "is intestinal stasis, and the surgeons are manifesting a cordial interest in Jackson's membranes, Lane's kinks, and similar obstructions as its cause. Our grandparents knew better."

The Prevention and Cure of Respiratory Catarrhs by the Administration of Vaccines

The Duration of Artificial Immunity and Its Value

By Malcolm Dean Miller, M. D., Wollaston, Massachusetts

IN THE May, 1915, issue of Clinical Medicine, there appeared an article giving my experience, up to about the first of the year, with bacterin-treatment for acute and chronic respiratory catarrhs. Since that time, I have had occasion to treat a great many more cases and meanwhile have been able to check up the duration of immunity conferred in most of my earlier cases. The results are of considerable interest.

Some readers may remember that I began the use of bacterins on myself and on a friend, administering about a dozen injections, up to 2 mils (Cc.) a dose, of a mixed "catarrhal combined" stock bacterin. At the end of that time, I was entirely free from symptoms of catarrh, save for occasional secretion from a mass of adenoid. My friend, however, although repeated microscopic examinations showed at first that there remained only a few pneumococci (these disappeared after a few large doses of a plain pneumococcus bacterin), had sufficient nasal obstruction from spurs and deflected septum to keep up a little nasal discharge. Consequently, I sent him to a good nose-and-throat-man, who operated and gave him good breathing-space in both nostrils, whereupon he continued free from catarrhal symptoms for six months. Then he had an acute cold, but this was cured within forty-eight hours by the injection of just one dose of bacterin. Now, after the passage of another six months, he is obliged to use a handkerchief only occasionally—far less frequently than before he received the bacterin-treatment.

My own immunity lasted fourteen months. During that time, I enjoyed complete freedom from even such slight troubles as sensitiveness to draughts. Then, however, I experienced a relapse, and I felt the symptoms of an attack of a severe cold in the head. So I took a dose of 0.5 mil of "catarrhal combined" bacterin as soon as I possibly could. As usual in acute cases, the effect was almost immediate. The cold ceased to develop overnight, as was threatened, and was practically gone in another day. Notwithstanding, I took two more doses of 0.7 and 1 mil respectively, at intervals of a week, and there was practically no local reaction after the last dose; thus showing a return to immunity.

About five months after that occasion, during September last, I evidently infected myself from a boil, for I then had a "cold" caused by the staphylococcus aureus, but this attack yielded at once to a dose of 400 million of the killed germs of this species. Then again in December I became newly infected, probably from a patient with an oncoming cold who coughed into my face; but, as before, one dose of the bacterin prevented the development of a lasting infection.

Records Show an Immunity of Many Months

Looking through my case-records, I find that all catarrhal patients who had received the bacterin-treatment as long as a year ago last September had enjoyed immunity lasting for from six to twelve months. Sooner or later, however, the immunity has ceased in every instance. As all of these subjects were controlled by constant microscopic examinations, I know that they were quite free from offending organisms in the mucus from nose and throat when they were discharged as cured; consequently, fresh infection from without must have been the rule. One patient discharged himself, against my advice, while he was passing through the stage of increased discharge. I will here explain that this is a condition which I have constantly observed to occur, under massive doses, toward the end of a course of injections. The large doses seem to rout out the deep-seated infection, and, as the vanquished bacteria can be removed from the mucous membrane only by the formation of a mucopurulent discharge, often a great increase in secretion takes place. Invariably, however, if the dosage is pushed to the maximum and persisted in until no longer any local reaction is observed following the injection, the germs finally disappear from the secretion, while the secretion itself becomes normal in amount. But, I must admit, even the patient in question, who quit before that point, became cured, and his nasal condition cleared up without any further treatment, after the lapse of a few

weeks—at least so far as symptoms were concerned.

The most rapid results (i. e., from fewest injections) occured in the case of persons who did not mind the inconvenience of somewhat severe local reactions following a doubling of the dose (that is, up to twice the recommended amount), repeated once a week. In most cases, the increase was about 0.25 mil (Cc.) at each time, without causing much discomfort to the patient.

The importance of mechanical obstruction as a cause of continued discharge is demonstrated by three cases, still under observation. These patients have spurs, deflected septa, polypi, or other obstruction, and in all there is kept up a constant discharge, which repeated microscopic examinations have proved free from germs since the conclusion of their bacterin-courses. All of these patients will have to go to the rhinologist, for operative work, to insure permanent results.

Those patients who attended to the local treatments faithfully also got well in much shorter time than those who neglected them. This is what we might expect when we remember Wright's caution, that it is necessary to induce local hyperemia, if possible, in order that the products of the action of the bacterin shall be carried to the infected area. The consistent use of the hot alkaline nasal douche is most important.

No less important, however, are the general measures that were emphasized by me in my former article. Nuclein, alone or in combination with the triple arsenates or as the nucleinated phosphates, is needed in practically all catarrhal conditions. Readers of this journal hardly need to be reminded of its efficacy particularly. in throat infections, Used at the very onset of a beginning tonsillitis, hourly doses of 4 or 5 minims of the nuclein-solution—the tablets dissolved in the mouth—seldom fail to abort the infection. Nuclein and calcidin, in hourly dosage, constitute the best general prescription for all acute infections of the nose and throat. The additional administration of a single, medium, dose of a good mixed catarrhal bacterin will insure results in those cases which might otherwise develop in spite of the medicine.

Value of a Limited Immunity

What, then, is the value of immunizing against catarrh if the immunity lasts only a year or less? The answer, it seems to me, depends largely upon the patient's idea of values. Some people may feel that it is not worth the trouble, discomfort, and cost; while others, who have suffered more, and who face the certainty of a constant succession of recurrent colds the year around, would purchase a few months' freedom at any price within their reach. Surely, if one can begin treatment in the autumn and then, by receiving a few injections, go through the winter and spring free from attacks of acute colds, it is worth the cost and temporary discomfort.

Thus, for example, a physician—a friend of mine—has six or eight weeks' respite between attacks, then has an acute cold that lasts two or three weeks under drug-treatment and often incapacitates him so greatly that he has to secure a substitute. Then he gets fit for work again. Yet, this doctor is "afraid" of bacterins. Were this man to receive just once the relief afforded, at the start of an acute relapse, by a timely injection of the bacterin, he probably would come to think—just as I do—that *it is worth* being immunized, and thereafter be reimmunized as often as the protection runs out. It would save him hundreds of dollars paid to temporary assistants; aside, entirely, from his personal comfort.

As for acute colds, I have yet to see a case which did not respond promptly to a single dose, even after the cold had lasted for several days. A second or third dose invariably prevents complications, such as throat or bronchial involvement. Often the immunity from two or three doses is sufficiently marked to prevent the contracting of a second acute cold during the same winter.

The Proper Mixture of Bacterins

Numerous microscopical examinations have demonstrated that it is advisable to stain two specimens of nasal and two of laryngeal discharge, if obtainable. One should be treated with Loeffler's alkaline methylene-blue, steaming over the flame for thirty to sixty seconds; the other, by the Gram method. Examine in a water-mount, to demonstrate capsules on pneumococci and Friedlander's pneumo-bacilli.

Pneumococci are practically always present. influenza bacilli are occasionally seen. Once in a while, a pure culture is encountered. Usually, there are present from three to five different organisms. Consequently, a good mixed bacterin should be kept to hand. This mixed bacterin should be employed in all acute cases, without waiting for a microscopic examination; for the remedial effect is good in proportion to the earliness with which it is administered.

The vaccines in question, because of their local reaction, are valuable for diagnostic purposes and for determining the end point. For instance, I am just discharging a case of ulceration of the cervix uteri and chronic cystitis caused by an old gonorrheal infection and complicated by the presence of colon-bacilli and various pus-cocci. At first, a dose of bacterin caused an intense local reaction. The last two doses caused a slight and no reaction, respectively. Simultaneously the urinary sediment has become free from pus-cells, bladder-cells, and bacteria, and the vaginal mucus no longer shows gonococci, colon-bacilli or pus-cocci.

To sum up, I believe that in all acute infections bacterins should be employed early and in good dosage, and repeated in increased dose as soon as the symptoms grow worse. Thus, for instance, in treating erysipelas, septic hands, boils, and the like, small doses do not hinder the development of the infection; but large doses check and still larger doses will stop the progress of the infection and cause it to recede. So, when the injection of 100 million of the killed microbes daily has little or no effect, then we must increase this to 400 or even 800 million. This refers to the pus-cocci. The same holds good of some other organisms. In acute gonorrhea, as I have previously pointed out, I have been able to abort within a few days every acute case, that has come to me, with three doses of, respectively, 250, 500, and 1000 million. In chronic cases, from eight to fifteen suitable doses are required, starting with smaller ones, then working up to about the same maximum.

Furthermore, I believe that artificial immunity in respiratory catarrhs should be secured in the fall by all persons subject to recurrent colds. Most of those who experience the relief will be glad to repeat the immunizing course as often as their immunity runs out.

Nonoperative Gynecology

By William Rittenhouse, M. D., Chicago, Illinois

Professor of Obstetrics, Loyola University

EDITORIAL NOTE.—This is the fourth in the series of articles upon nonoperative gynecology which Professor Rittenhouse is contributing to this journal. This is a topic in which every general practitioner is interested; therefore we believe that every succeeding instalment of this series will be eagerly welcomed by every reader of this journal. Professor Rittenhouse will be glad to answer any questions, and we hope that the series may bring out many comments.

[*Continued from the September issue, page 753.*]

Sterility

THE causes of sterility are many, among which we may mention the following:

1. The ovaries may be so diseased that they produce no ovules or else diseased ones. This is said to occur in some cases of syphilis and of ovarian cysts. It is not probable, however, that the cause of barrenness often lies in the ovaries, for they are organs of great vitality. A very small amount of healthy ovarian tissues remaining after mutilation or disease may be quite enough to produce normal ovules. We occasionally hear of a patient who has undergone ovariotomy surprising herself and her doctor by becoming pregnant. A tiny fragment of the ovary had remained behind.

2. The cause of sterility may lie in the fallopian tubes, when they have been occluded by disease, accident or malformation. The barrenness of prostitutes no doubt is mainly due to salpingitis, the result of gonorrheal infection. I am informed that there are surgeons who do a profitable business in ligating these tubes for women who regard sterility as a very desirable condition.

3. A very common cause of sterility is found in the endometrium itself, when it is in the condition usually called endometritis, but which would be described more correctly as atrophy of the mucous membrane of the womb The manner in which an impregnated ovum becomes imbedded in a healthy endometrium is quite analogous to that in which a grain of wheat takes root in fertile soil. When, however, an ovum enters a uterus the lining of which is thin, pale, and anemic, its chance of taking root is poor, just like the seed, in the parable, which fell by the wayside and upon stony ground.

4. In some cases, pregnancy is prevented by the condition of the internal os. There may be a stenosis, which renders the escape of menstrual fluid difficult and painful and also prevents the spermatozoa from entering the uterine cavity. The same result may be produced by extreme flexion. When the uterus is sharply anteflexed or retroflexed, the

body and the cervix are at right angles to each other, the effect on the internal os being like that of "kinking" a garden-hose, for example; the passage is occluded.

5. In endocervical catarrh, the plug of mucus may be so tenacious as to prevent spermatozoa from entering the uterine cavity. I believe this to be a rather frequent cause of barrenness.

I have seen it stated that hyperacidity of the vaginal secretion may cause sterility, by killing the spermatozoa before they can make their way into the uterine cavity, and that the trouble can be remedied by using an alkaline vaginal douche just before coition. I have never met such a case or, if I have, I have failed to recognize it.

Sometimes the failure of a wife to have children is the fault of the husband. I believe the percentage of such cases to be very small, still, in an obstinate case of sterility, this possibility should not be overlooked. The semen may contain only dead spermatozoa or it may fail to penetrate sufficiently far into the vagina, owing to premature ejaculation or to hypospadias. For the former condition, little or nothing can be done. The second is not much more promising, although tonics and cold bathing may be of benefit. For hypospadias, a surgical operation should be advised or else artificial impregnation may be tried.

There is another class of alleged causes of sterility, which might be called psychological. The belief prevails to some extent among the laity that a woman will not conceive if she has no passion and experiences no orgasm. But there is abundant evidence to the contrary.

There is also a much more common belief that, while a marriage between two given persons may be childless, yet, both the man and the woman might contract a fruitful union with a different partner, and in corroboration the case of Napoleon and Josephine is quoted as proof. Although it is true that these two royal personages had no children together, while each had issue with a different mate, this does not prove that children were impossible to them. True, they lived together thirteen years; nevertheless, we see cases where a couple live together unfruitfully for more than thirteen years and eventually have children after all.

I had a case in my own practice, where a couple had their first child sixteen years after marriage, and another where the first child was born a year after marriage and the next pregnancy did not occur until eighteen years later—when the wife tried to make up for her tardiness by presenting her husband with twins. If the first-mentioned couple had been divorced at the end of ten years and had each married again, they, too, like Napoleon and Josephine, they might have been quoted as proof that "affinity," or the absence of it, is a mysterious factor in determining, respectively, fruitfulness and sterility. These two cases of mine suggest a phenomenon which has often been observed, namely, that women who have been sterile during most of the childbearing period sometimes exhibit a revival of sexual activity just before the menopause.

Prognosis and Treatment

The prognosis in female sterility depends greatly upon the etiology, and, since it is impossible always to be certain of the cause, we seldom are able to promise the patient a positive cure.

The first thing that should be insisted upon is, a thorough investigation of the case, both by physical examination and inquiry into the history. This may enable the doctor to form in his own mind some idea as to the probabilities of a cure, but that idea will seldom be definite enough to justify him in offering the patient a rose-colored prognosis. Frankness is best in the long run, and the patient should be given to understand that, while few cases are entirely hopeless, a certainty of cure cannot be promised. In my own experience, success has been attained in over 50 percent, but this includes only such cases as seemed promising enough to start on a course of treatment. The ones that seemed hopeless from the first were frankly told so.

If a woman has had gonorrhea, with or without salpingitis, and has been sterile for several years after, the prognosis is poor.

There is a form of leukorrhea which usually indicates a hopeless case. There is not much discharge, but what there is clings to the vaginal wall in the form of flaky curds. This condition I believe to be due to a form of endometritis in which the uterine mucosa is more or less atrophied. I have never found any form of treatment capable of restoring its activity. In other forms of endometritis, in endocervicitis, in stenosis of the os internum, in flexion either backward or forward, there is always a reasonable possibility that the sterility may be overcome.

Owing to the uncertain etiology, the treatment must often be somewhat empirical, but it should be broad enough in its scope to cover all the contingencies apparent. The

three most frequent indications are: to correct endocervical catarrh, to dilate a stenosed os internum, and to make such applications to the endometrium as will tend to stimulate it to resume normal activity.

If I find present in the external os the characteristic plug of catarrhal mucus, I treat this condition first, as described in a previous article. When the endocervicitis has been controlled, I inform the patient that I am ready for the next step, which will be a month's treatment, beginning about three days after the next menstrual period and repeated every five days until just before the time for another period. At the first sitting, I endeavor to get a dilator through the os internum—of course, under careful asepsis. I begin with the smallest size necessary to effect an entrance without using violence, usually a No. 5 or 6, American gauge. This is about the size of a small wheat-straw. I prefer a steel dilator shaped like the sound used in the male urethra but having less curvature.

When there is no flexion of the uterus and the stenosis is not intense, the size of the sound named can usually be passed, with a little patience, by steady moderate pressure. Regard must be had to the proper direction; that is, it must be ascertained whether the uterus is anteverted or retroverted.

I should have stated that I use a bivalve speculum, and this helps somewhat to bring the uterus into line. I much prefer using the speculum to introducing the sound on the finger without a speculum. The sound is lubricated with euarol (thymol iodide in oil solution). It is easier to keep the dilator aseptic, and easier to tell when it passes the os internum. By winding a few fibres of absorbent cotton around the dilator, 2 1-2 inches from its end, we have a landmark the approach of which to the os externum will announce the entry of the instrument into the uterine cavity.

If with reasonably prolonged effort the sound fails to pass the internal os, I seize the cervix with a tenaculum forceps so as to make counter traction. This may seem rather heroic if done without an anesthetic, but uterine tissue is not very sensitive and, if the patient has been told that she will be hurt some and especially if she has not seen the tenaculum, she will usually not complain. But, if she has caught a glimpse of that instrument, the idea of "putting hooks into her flesh" may be too much for her fortitude. As a matter of fact, the cramping pain caused by passing the dilator through the os internum is more severe than the sharp sting of the tenaculum in the cervical tissue. Where much flexion exists, the tenaculum is usually necessary—the traction which can then be made helping to straighten the uterus and facilitating the entrance of the dilator.

Once the dilator has passed, it will be comparatively easy to introduce the next size, and perhaps a third. We are then ready for the next step, namely, an application of whatever drug has been selected for the purpose.

I wrap the end of an applicator firmly with absorbent cotton, dip it in euarol and swab the interior of the uterus thoroughly. The manner in which the wrapping is done is of importance, for, if done unskilfully, it may not enter readily, or, still worse, it may strip off the applicator and remain in the uterus. While this accident is not very serious, it may, nevertheless, cause the patient some discomfort and the doctor some anxiety before the cotton comes away. The wrapping which I have found most satisfactory should not be short and thick, but should cover at least two inches of the applicator, uniform and a little thinner than the largest dilator used, very firmly wound, and having only a small brush of loose cotton at the end. I often have to wind several before I can get one to suit me.

Attention to apparently trifling details is the price of success. Euarol for the application has given me good results, and is not as painful as iodine, which I have also used to some extent. When I use iodine, I prefer a saturated solution in liquid petrolatum, in place of the tincture, which latter is so astringent that the swab does not readily pass into the uterus.

When this treatment has been repeated every five days for a month, it should be suspended. Pregnancy may follow the next menstrual period, and to continue the treatment in that case would cause abortion. If menstruation continues regularly after one or two months' observation, the treatment may be resumed for a month, followed by the same period of waiting. I have been successful in some cases after a month's treatment; in others, only after two or three. As a rule, if no results are obtained after three months of treatment, with the above interval between, I advise a curettage (under anesthesia), using a sharp curette, followed by the application of iodized phenol. This will be followed by what is practically a new uterine mucosa, one that is favorable to impregnation, and I have seen success in several cases. If the woman still remains barren, her case is hopeless.

In all cases of sterility, the woman should be told that conception is most likely to occur the first day or two after a menstrual period.

What the General Practitioner Can Do in the Treatment of Chronic Diseases

By George F. Butler, M. D., Kramer, Indiana

Medical Director of the Mudlavia Sanitarium

(*Continued from October issue, page 849*)

Doctor Meylan's Testimony

Dr. George L. Meylan, medical director of the gymnasium in Columbia University, has written very sensibly on rest and recreation as follows:

"All changes from rest to activity or from activity to rest are made slowly when nature is allowed to have her own way. Attempts to change suddenly from inactivity to vigorous muscular work bring on severe distress of the circulation and respiration; rapid eating after a long fast inevitably results in acute indigestion; sudden awakening from sound sleep causes general discomfort; an abrupt change of temperature, such as occurs when jumping into cold water, usually brings on cramps of the muscles, and occasionally causes sudden death.

"Judicious regard for this physiological law is essential to physical wellbeing and efficiency. The common practice of taking a cold plunge-bath immediately after rising is absolutely contrary to the laws of physiology and hygiene. The effect of the cold water is, to stimulate all the body-functions to sudden and vigorous activity and also to dissipate temporarily the sensations of left-over fatigue not removed even by sufficient rest. The exhilaration produced by the bath accelerates the expenditure of nervous energy for a few hours and is followed by a reaction in the form of lassitude and depression. It is far better to allow the various body-functions to change gradually from the relative inactivity of sleep to the full activity of work.

"In order to avoid the dangers of excessive fatigue, sleep is indispensable, but there are other ways of securing rest. Some temperaments derive much benefit from occasional periods of complete idleness, other temperaments, more nervous and restless, get no satisfaction from being idle. Continuous application to one form of work is much more fatiguing to nerve and muscle than is varied work. I have seen business men and students come to the gymnasium, all fagged out from five or six hours of mental work, get into various forms of muscular work with zest and energy. In a model boys' school, famous for the rapid progress of its students, the boys alternate periods of study with short periods of active play. The principle involved here is, that, by changing from mental to physical work or from one form of mental work to another, the individual is able to accomplish a larger amount of work with less fatigue than by working continually at the same kind of work.

"One of the most salient characteristics of our modern life is, the increasing amount of leisure time for recreation made possible by the shortening of working-hours. The advent of specialization, labor-saving devices, the telephone, telegraph, and automobile make it possible for all classes of people to do more work in less time than before. But work is more intensive and consequently more fatiguing. The result of these changes is, a greater need for relaxation and more time available for recreation and pleasure. The proper utilization of leisure time has much to do with health, efficiency, and happiness.

Importance of Play and Outdoor Life

"Play is generally considered as belonging to childhood only, but it is really a vital part of life at all ages. The need for recreation and play is satisfied in various ways. Sedentary workers derive the greatest benefit from outdoor physical recreation, such as golf, tennis, fishing, hunting, collecting, and photography. Leisurely reading of the treasure stores of literature, music, and parlor-games also afford a certain amount of mental relaxation from daily work.

"The outdoor avocation or hobby has more in its favor than any other. It is readily procurable in 'doses' suitable to any temperament or temper and adjustable likewise to the size of any pocketbook. The essential point with most persons is, to make a beginning, and to acquire a desire for acquaintance with the birds, familiarity with the procession of the wild flowers or the discovery of beautiful bits of scenery that may be reproduced by the camera.

"Many people who realize the importance of outdoor recreation neglect it because they have not formed the habit of making

use of weekends and holidays for that purpose.

"There are innumerable ways of getting the benefit of outdoor recreation while leading an active city life. Even in New York City, where the conditions are perhaps the least favorable for getting out into the country easily, the problem is solved in various ways. There is a group of professional men who are organized as a fresh-air club. They make up a schedule of walking-trips during the autumn and spring, and skating parties during the winter. They meet at the railroad station Saturday afternoons, ride out ten or twenty miles from the city, walk from five to ten miles across the country or up a mountain, spend the night at some country inn, walk ten to twenty miles on Sunday, and return Sunday evening, invigorated and ready for another week of hard work.

"Another group of my friends go off in a motor boat, either up the Hudson River, down the bay or into Long Island Sound, eat and sleep aboard, and return Sunday evening. Two teachers of my acquaintance spend Saturday afternoon and Sunday canoing up the Hudson and camping out at some of the many beautiful spots along the palisades, between New York and Peekskill.

"In the vicinity of every city, opportunities for physical recreation are available in the open country, woods, hills, lake or stream. A very essential point to remember in this connection is, that frequent short periods of outdoor physical recreation are far more beneficial to persons working than is one whole month's vacation following eleven months of continuous application.

"The value of frequent outings in the country is not alone beneficial to physical health; the effect upon the mind is equally good. The mind is rested and refreshed by a change of surroundings, seeing new faces, eating different food, sleeping in a strange bed. The worries and troubles are forgotten and the mind regains its elasticity and freshness for clear thinking and efficient work.

"Weekends and occasional holidays serve a good purpose, still, most people need a longer period of rest and vacation about once a year. Those who disregard the need for an annual vacation and work continuously year after year furnish the recruits for nerve-specialists and sanitariums. A story in the newspapers, describing the strenuous life of a young man twenty years old, who by continuous application without any vacation had earned his election to the presidency of a large New York bank, brought him a large number of circulars from sanitariums for neurasthenics, is characteristic.

"The rapid development of the summer-vacation idea within recent years is the natural result of the increasing demand for intensive mental application in business and professional life. The judicious use of the summer vacation serves to restore the individual to a normal physical and mental state after months of more or less unhygienic living.

"Camping, cruising, touring, and tramping afford the largest amount of recreation and recuperation to tired-out mental workers.

"Summer-hotel life, with its idleness, rich food, and much dressing, strenuous traveling and sight-seeing, is not a desirable form of vacation for sedentary workers. A simple active outdoor life in the country or on the water is far better to restore vitality, revive ideals, and help the individual to live a broad, happy, and effective life."

Indigestion

Imperfect digestion is one of the commonest disturbances to which the human body is subject; nevertheless, science knows but little of its pathology, and, to frame an accurate definition of its precise nature, probably is not possible at this time. The manifestations of indigestion by no means are confined to the stomach, for, often every part of the alimentary canal and the secreting glands connected therewith is involved; while in what used to be designated nervous dyspepsia the origin of the functional disturbance is not in the abdominal viscera at all, but in the higher nerve-centers.

Therefore, for the purposes of medicine, the chronic condition known as indigestion has been broadly divided into two great classes of socalled "dyspepsia"; namely: the one in which there is a deficient secretion of gastric juice, amounting sometimes, almost to suppression; the other, in which there is too much acid in the stomach, due either to the hypersecretion of hydrochloric acid, or to fermentation of the food-constituents and consequent formation of lactic, butyric and acetic acids. Besides these two general divisions, a third one is recognized, although this condition is met with but rarely. Here, the food is retained in the stomach only a short time, passing rapidly through the pyloric orifice into the intestine, where it stimulates peristaltic action and induces a copious evacuation immediately following each meal.

However, for all practical purposes, we may consider that dyspepsia is due either

to a lack of gastric juice or to an inferior quality of the secretion whose peptic properties are impaired, but it is difficult to determine, without resorting to the laboratory, which of these pathological states of the gastric secretion obtains in any particular case.

Without a diet that will furnish the requisite nourishment and at the same time not overtax the digestive powers, not even with the highest medical skill can we hope to effect a permanent cure of "dyspepsia," Sometimes the appetite is perverted and requires to be trained back into normal channels; a course of properly regulated fasting often is conducive to this, and is, in addition, an excellent preliminary measure before a radical change of diet is undertaken.

The Starvation Theory Fallacious

Many persons, having been the "victims" of certain experiments, have the idea that the less one eats the better, and their minds first will have to be disabused of this notion before any progress can be made in restoring them. It is as unwise to go to bed hungry as it is to eat from habit alone, in the face of disinclination. If appetite is lacking, the sufferer should take more exercise in the open air. Improved nutrition brings increased energy, and the patient is not in a satisfactory condition until this sign—increased energy—becomes manifest, even though he may have put on flesh.

A common mistake committed by dyspeptics is, that they attempt self-treatment by cutting off articles of diet, now one and then perhaps another, in that way often diminishing their strength without lessening their trouble. Dyspepsia is serious enough, certainly, to demand the attention of a skilled physician.

How to Eat

The patient should eat slowly, and thoroughly masticate and insalivate the food before swallowing it, a frequent cause of dyspepsia being hurry at meals. A certain time should elapse between eating and the return to work, especially with the dyspeptic. Rest before eating is another important factor, it being especially desirable to rest a few minutes previous to the evening-meal, for this is the time when the stomach and the body in general are likely to be nearer exhaustion than at any other hour.

Although the experience of mankind shows that, as a rule, at least four or five hours should intervene between meals, there are conditions under which it is better that something should be taken every two hours or so, as, for instance, in fevers, when the waste of the body is highly increased; but, when food is eaten as often as this, it must be in small quantities, otherwise indigestion will follow.

Always rules should be laid down for the patient as to when, how, and what he should eat.

Liquids at Meals

Only very little fluid, or none, should be taken at meals, since the effect of it will be, to dilute injuriously the saliva and gastric juice. Liquids may be taken immediately after the meal, although the best time is an hour before the meal; and it should preferably be plain hot water. This washes out of the stomach the remnants of the previous meal, while much of the water becomes absorbed and thus prevents thirst at the table. Moreover, the water already absorbed makes possible the free secretion of saliva and gastric juice, whereby digestion is accelerated.

An exception to this rule is, that, if the stomach is actually dilated and more especially if this is due to pyloric obstruction, even hot water will remain in the stomach for more than an hour after ingestion and, so, will interfere with digestion instead of promoting it.

Proteids and Carbohydrates

It is a common practice, based on ages of experience, for the English-speaking world to separate the proteid from the farinaceous meals, or else to join them in given proportions, taking the farinaceous part, with only a small amount of proteid, for breakfast; a proteid meal for luncheon; perhaps a little farinaceous food in the afternoon; and another proteid meal in the evening.

Mastication

Always the food should be well masticated. For young persons who have good molars, this is not difficult, but others who have lost teeth should give special attention to this important matter, keeping in mind the fact that, in order to reduce their food to a given state of consistency, they will be obliged to chew it many more times than they used to do. In dyspepsia, it should be insisted upon that all food be masticated until it has the consistency of cream, so that it would pass through a fine sieve without leaving a residue.

The "fletcherizing" of food has its value, providing it is not overdone.

The Body Must be Kept Warm

Special warmth is required in four different places on the human body, namely, the abdomen, the back of the neck, the shins, and the feet, and dyspepsia often is due to exposure of these parts. In cold weather, there is always a draught between the room-door and the heating apparatus, and to sit in this current of cold air often means to acquire dyspepsia—a dyspepsia that is usually laid to some food recently eaten. If one is compelled to remain much in this draught, the feet should be protected by thick shoes, especially those with cork soles, the legs by woolen stockings and gaiters of leather or cloth, and, if necessary, a high collar or muffler may be worn around the neck. But the best way is, to avoid the draught, when possible.

Abdominal Support

An apron of chamois-skin and flannel, or a belt, should be worn around the abdomen in such a way that it gives support to the body, as well as warmth. Support is especially demanded when the belly is pendulous and the abdominal muscles are lax. The belt may be made of flannel or knitted wool or a still more comfortable one may be made in the shape of a silk scarf, and this should be long enough to wind three times around the trunk. The belt may be provided with a pad or truss in case of floating kidney.

Treatment of Menorrhagia, With Especial Reference to the Use of Mammary Extract*

By W. F. Von Zelinski, M. D., Sc. B., Chicago, Illinois

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IN ORDER that you may have a clear understanding of the subject with which I am to deal this evening, I want to present a classification of hemorrhages from the uterus from the standpoint of etiology in a way somewhat different from that found in the usual textbooks, which latter, so far as I have been able to discover, are rather misleading.

Generally speaking, hemorrhages from the uterus are considered under two headings—metrorrhagia and menorrhagia. Metrorrhagia should be classified as a hemorrhage from the uterus having its etiology independently of ovulation and menstruation. Menorrhagia, on the other hand, should be noted as a condition most usually intimately connected with the maturing of the ovum. Irrespective of the duration or intensity of a uterine hemorrhage, even though it last for weeks, when having its etiologic factor in the process of ovulation, it must be considered as a menorrhagia. So far as we know now, normal ovulation induces what we recognize as menstruation, and under normal conditions it controls both the duration and the amount of flow.

I am aware that there are conflicting theories as to the role played by the ovaries in the induction of the menses. By that I mean, whether ovulation, or development and regression of the Graafian follicle, is concerned, or whether it is owing to an internal secretion from the ovary, a socalled hormone. There is, however, no doubt that the presence of the ovary is necessary for the production of menstruation, irrespective of whether the ovary be in its normal anatomic position or be transplanted to another part of the body.

Of course, I recognize that *a priori* a uterus of normal structure and blood supply must be postulated for the production of a normal catamenia. Deviation from what we consider a normal menstruation for a particular individual brings us to the determination of the various factors that have to be noted in the diagnosis of a menorrhagia. Several must be taken into consideration. Assuming the menstrual flow to be of greater severity or of longer duration than is usual for a given individual, we must determine, first, whether there is an abnormal condition of the uterus, and, second, whether there is a disturbance in the function of the ovaries, or both.

For example: Owing to displacements, subinvolution or other cause, a uterus may be

*Read before the monthly meeting of the Alumni Association of Bennett Medical College.

hyperplastic both in its body and in its endometrium. This is given as one of the most prolific causes of menorrhagia. We may find here, however, that the periods are only of medium intensity and duration, and we may then surmise that this condition has some inhibitory influence on the menstruation-inducing function of the ovary. Although it is a very common occurrence to find a hyperplastic condition in menorrhagia, this alone will not produce the pathological condition under consideration. On the other hand, we may find a most severe menorrhagia in what, to all intents and purposes, is a perfectly normal uterus. Here, of course the assumption would be that we have to do with a disturbance in the ovarian function pure and simple.

Some Objections to Curetting the Womb

I mention this particularly, to emphasize the careful consideration that must be given to the cause of hemorrhage from the uterus. To concentrate treatment on the uterus when it is not directly at fault, it goes without saying, is very irrational. I call attention to this self-evident fact, because we do not have to hark back very far to the time when most cases, if not all, of uterine hemorrhage were treated with the curette; not once, but any number of times within a short period. Often the results were not only nil, but in many instances positively harmful. Acute inflammatory processes were further complicated, while repeated curettement caused the formation of scar-tissue, which later led to acutely painful dysmenorrhea, and, in cases in which pregnancy followed, to difficulties during the puerperium.

Like every other therapeutic measure, curettage has its positive indications. In certain cases of menorrhagia, it must be admitted, it is of value. However, Busse, of Germany, states that lasting results—that is, control of hemorrhage—have been obtained in but 10 percent of cases following curettage. All of us know of innumerable cases that were curetted for hemorrhage from the uterus, irrespective of its cause, with brilliant temporary results, and we also know of many patients who were finally persuaded to submit to a partial or complete hysterectomy. In the case of those who were in or past the menopause, the future effects of such measures were perhaps not so serious, but in the case of the younger patients the final results of such a radical procedure were, for obvious reasons, not so satisfactory, except as they removed the cause of their former disagreeable symptoms; a case in point where the remedy is worse than the disease.

According to my experience, curettement is of value in chronic endometritis following abortion, in subinvolution (*post partum* or *post abortum*), and in chronic diffuse or polypoid hyperplasia of the endometrium. In such cases, the enlarged and thickened uterus is often restored to a normal or nearly normal vascular organ. Here, the curettage not only removes the diseased tissue but has a stimulating effect and may thus remove the cause of the overstimulation of the ovaries and, of course, in connection therewith or as an aid thereto, all the local applications, such as formalin, silver nitrate, iodine, hot douches, and the internal remedies, such as ergot and hydrastis.

There is another group of cases classified under menorrhagia, to which I would call your attention, namely, those accompanied by acute inflammation. To some it appears that the inflammatory condition of the uterus is the cause of the hemorrhage, although in the majority of instances the exciting cause will be found in a disturbance of ovulation induced by inflammation of the uterine adnexa. These cases, I might mention in passing, must never be treated locally or mechanically, but according to the well-known principles of rest and by means of antiphlogistic measures, such as the application of ice-bags. The usual styptics are of little or no value here.

Among other measures that have been employed in menorrhagia, aside from those I have referred to, I may mention extirpation of the ovaries and roentgenization. I have heard more than one roentgenologist urge the use of the Roentgen-rays in menorrhagia, and cite as examples many cases that they had treated successfully; but there is one thing which I never have heard them mention, namely, that it has been proven experimentally that a fecundated ovule from an ovary previously subjected to Roentgen-rays has produced teratoid births. From this we can see that the application of such treatment should always be guided by caution, because of its possibilities for future harm.

Mammary Extract for Menorrhagia

In the treatment of the conditions discussed, that is, the various groups classified as menorrhagia, we have all felt the need of a simple remedy or plan of treatment, that is, a remedy that will not disturb or cause permanent changes in the sexual organs. To Professor Hoehne, of Stoeckel's clinic at Kiel (from whose writings most of the material for

this paper has been gathered), must be given the credit for working out such a treatment on a scientific basis. I refer to the use of extract of the mammary gland. However, mention of what we might call "mammary therapeutics" was first made in 1896, by Robert Bell, of Glasgow, who proved the physiologic influence of extracts of cows' udders and indicated their therapeutic value.

It seems, from the experience of Hallion and Battuaud and others, that the mammary hormone is antagonistic to the ovarian hormone. Changes in the proportion of these hormones result in disturbances of function. This suggestion is confirmed by the fact that mammary extracts have been used by Hoehne, in more than 50 cases, in conditions where he assumed that there was ovarian overactivity and uterine underactivity

Pochon states that the administration of the mammary hormone has a tendency to cause uterine depletion, and, according to Battuaud, this form of medication has proved valuable in young girls and in the metrorrhagia of the climacteric. He also speaks of its value in hemorrhages which are the result of uterine oozings during the menopause but not associated with malignant growths.

A number of writers, Hoehne in particular, have called attention to the possibility of diminishing excessive menstrual flow and curtailing its unusual duration by means of mammary extract. It is also asserted to be useful in lengthening abnormally short intervals between the catamenia, restoring the normal rhythm of menstruation in frequency, amount, and duration. Luncz especially credits this method of treatment with remarkable efficacy and emphasizes its absolute harmlessness.

Various Views Cited

According to Harrower, in his "Practical Hormone-Therapy," a study of references to the subject cannot but impress one with the antihemorrhagic and sedative effects of mammary opotherapy in cases of functional overaction of the pelvic organs; still, it should be emphasized that preparations of this character are not styptics, as a study of their physiologic action shows. Indeed, if one were to believe all that is said by Harrower, concerning mammary extract, he would find it recommended for the treatment of uterine fibroids and other pathological conditions which we believe can be handled properly only by surgical means.

Harrower, quoting Feodoroff, mentions a statistical report of the use of mammary extract in uterine fibromyomata, in which a reduction in the size of the tumor was noted in 53 percent of all cases treated; hemorrhage and profuse menses were controlled in 83 percent; the pain usually present in the development of the tumor was abolished in 40 percent; in only 14 percent was there total failure.

A Personal Experience

I would lend my support to these views, even though my observation were limited to fewer cases. In my own practice, I have had most excellent results in cases of preclimacteric menorrhagia; also in other cases of menorrhagia, of which latter I will mention one example. It is that of an unmarried woman 32 years of age, a cleancut case of ovarian dysfunction, with absolutely no indication of any organic lesion or neoplasm. The patient flowed for two and three weeks at a time, at intervals of two and three weeks. All approved methods of treatment had failed; by which I mean the use of styptics and the curette. Two courses of treatment with mammary extract, 5 grains three times daily for two weeks each time, relieved the trouble in a most satisfactory manner.

I am personally convinced that mammary gland is one of our best remedies for the control of hemorrhage due to ovarian dysfunction, and I believe that it is the best single remedy at our command. However, in my study of this remedy I have found references to its use as an oxytocic agent, several authors reporting that injections of mammine had an undeniably abortifacient effect, and stating it as their opinion that the remedy was contraindicated during pregnancy. A sedative effect has also been reported.

The extract has been suggested as a postpartum agent, to influence increased secretion from the breasts; also for its decongestive effect upon the uterus, in hastening involution and return of the organ to the normal. However, its use as a galactagog does not seem to be sanctioned by experimental work; for, Ott and Scott, of Philadelphia, have shown that, while the amount of milk secreted may be increased for the time being, the total quantity for twenty-four hours can never be augmented by this means.

I present this matter, not only because of my own belief in the efficacy of mammary extract, but because of the very glowing reports of foreign observers, who have had greater opportunity to study the value of this preparation than I have, and because the American medical literature is greatly lacking in this subject.

The Relation of Sexual Weakness to Rectal Disease

By W. F. Schrader, M. D., Fort Wayne, Indiana

I have not, at any time, read a conviction expressed by any writer regarding the intimate relationship existing between sexual disturbances and rectal disease, although this is of frequent occurrence, as has been evidenced to me in a brief practice specializing in rectal diseases. I do not believe that it is realized by many to how great an extent an irritation in the rectum may be responsible for some sexual variance from health and how often it is entirely overlooked in the treatment.

The most common sexual weaknesses complained of by men leading temperate lives, and who have not at some time in the past been either unwise or unfortunate in paying devotion at the shrine of Venus, are, in many instances, in some way attributable to a rectal disorder, as I have found by investigation.

During the last five years leading up to my graduation in medicine I put in from one to three hours of each school-day teaching in the literary department of schools where the majority of the students were young men. I was perhaps brought into closer contact with the members of my classes than is usual between teacher and pupil, because I myself was in my early twenties. The personnel of my classes changed with each semester, yet, acquaintanceship with a great many of these young people continued to the completion of their full courses of study. Quite a number of them made of me their confidant and came to me with their tales of broken hearts or infected bodies, and for advice in various matters of importance to a student.

A number of them worried about having too frequent nocturnal emissions, others complained of lack of control of their passions and consequent embarrassment at times, some of aggravating erethism, while in a few instances incapacity for the sexual act was confessed, although they were sure normal conditions prevailed theretofore and no history of disease, overindulgence or abuse had intervened.

At that time, I began to wonder why these young men, none of them "sports," and many from the farms, where it is supposed the healthiest and strongest are found, should be troubled with such weaknesses as were related to me; for, at that time, I knew little more than they about such conditions, and literature on sex matters wasn't found almost anywheres, as it is today.

After beginning the study of medicine, the number of these complainants increased, and they included older men, some of them married. Then I became more interested in this question.

After my graduation, I was appointed assistant demonstrator in the dissecting room, and I took particular interest in the dissection of pelves; for, I had been encouraged to make proctology a special study by an old gentleman, a pioneer physician who had purchased the right to use in a certain territory the Brinkerhoff pile treatment. He had a big patronage and frequently called me to see some special case or to assist when he needed help. I do not know that he ever inquired as to other ailments of his patients, but a few of them confided to me their sexual conditions and asked whether they could be caused by the piles.

Later, I recalled that a number of my confiding pupils at college had at times told me of blood losses at stool, of rectal protrusions, and of itching, and had diagnosed the presence of piles.

Sexual Trouble in 80 Percent of Rectal Cases

After four years in practice, I took a short course in proctology and then a special course a few years later, but continued in general practice until five years ago, since which time my work has practically been limited to rectal diseases. Consequently, my experience has not been one of great extent, but I have kept careful memoranda and a history of each case treated in these and the earlier years of practice and in preparation for this attempt to write a paper of interest to the readers of one of the best journals of its kind to be found in any country. I was not greatly surprised, because the evidence presented itself so frequently, to find that more than 80 percent of my rectal patients also had some form of sexual trouble.

This list does not include women; for, obviously, it is a more delicate matter to obtain such facts from the women. However, because of the data obtained in a few cases where intelligent, well-educated women were concerned, who appreciated the reason for

my questions, I have no doubt that similar conditions exist in women as well.

In the treatment either of the rectal or sexual class, you are not likely to learn of an accompanying condition unless you question the patient closely. Very rarely have I been told voluntarily of a sexual weakness along with that from which they sought relief.

The reason for this is, the false modesty that so long has obtained, particularly among Americans, about speaking of these parts of our anatomy, as also that so very few persons have a true conception of what normal sexual health should be or the proper functioning of the rectum in health. I believe that the study of sexual and of rectal diseases should go hand in hand and that the physician who specializes in either branch should fit himself to treat intelligently the cases of both.

When we consider the gross anatomy and the contiguity of the sexual organs to the rectum, the intimate interweaving here both of the circulatory and the nervous system supplying them, along with the very evident reflex influences one disordered organ exerts upon another throughout the body, it hardly can be otherwise than that both are impaired if any abnormality exists in either of them.

Perhaps I can not in any other way make plainer the reasons for my belief in the existence of such close relation in these ailments than by giving brief accounts of some cases treated and the results obtained. It would prove tedious should I here enumerate the therapeutic measures adopted in each instance, but, if I succeed in awakening sufficient interest in any reader to cause him to request the same, I gladly shall reply and offer help from my limited experience.

Persons afflicted with hemorrhoids other than that most painful variety, the thrombotic, seldom call for professional care until after home-remedies and advertised cures have been given trial, a period of months and perhaps years having elapsed in nearly all cases.

What Experience Has Revealed

In taking the case history, on my inquiry as to any sexual symptoms, maybe with looks of surprise and shamefacedly some will admit inability to maintain erection throughout copulation for some time past, and this gradually having grown worse up to the time of the examination. Thus, one man told me he had been wholly incapacitated for five years, another gave such a period of more than two years, and both said that in these years there were times when desire became so tantalizing as almost to unbalance reason. They had taken aphrodisiacs, had had electric treatments, massage, and had even resorted to unnatural methods and mechanical stimulation, but without any restorative effect.

The number of the tumors or the state of engorgement in neither of these cases was so great as is sometimes seen, yet, their existence covered a period of several years. However before the tumors had entirely disappeared, in each case an improved sexual condition was observed, and this continued, until capacity and potentiality were restored within three months after completion of the treatment, and there has been no subsidence in either case after periods of thirty-eight and thirty-three months, respectively.

I have found this partial impotency to exist in nearly all sufferers from hemorrhoids, and many of them had been treated and had taken "cures" for restoration of sexual vigor without knowing the real cause of their trouble.

Where it is not a result of venereal or constitutional disease, but piles are in evidence, incapacity will grow less and manifest improvement will set in at once with the successful removal of the hemorrhoids.

In one instance, however, I found a rectal irritation producing an unexpected condition—the exact opposite of incapacity. A professional brother came to me, stating that he had become really brutal in his embraces, that for some time he had noticed a gradual increase in his desire and that during copulation something spurred his action to uncontrollable movements, resulting in pain, if not real injury, to his partner, while he felt an unsatisfied sensation for quite a while after the orgasm and a peculiar pain around the anus.

No lesion was found in the sexual tract, but all crypts of Morgagni were filled with a dry, hardened material and their mucous coverings were quite sensitive. These pockets were emptied, and after all inflammation had subsided coitus was normal, without irritation following.

Another man, 45 years of age, had been advised by two surgeons of good repute that the removal of his prostate gland was necessary for his relief. He complained of inability to reach the climax of coition without great effort, the orgasm being so long delayed; and that, when he gave up the attempt, cloths wrung from cold water had to be applied to subdue the erection. At these times, he suffered pain in the whole body of

the penis, severe at the pubic junction and in the region back of the pubes, and a dull pain at all times along the root of the penis, between the scrotum and anus. His prostate gland was considerably enlarged, but not dense, nor could any nodules be detected; however, on either side it was partly overlapped by an oblong hemorrhoidal body.

This man had never had a venereal disease, was never seriously ill, had a family of five healthy children, and first noticed a change in his sexual condition after an enforced continence of five months during the illness of his wife and her recovery from an operation. With each trial at cohabiting, his condition seemed gradually to become aggravated, and this became the one topic of his thoughts and the only one of his conversation when with a physician or someone in whom he had confided. Removal of the hemorrhoids, a few milkings of the prostate gland, and a course of nuclein and arsenates, as a tonic, restored him physically and mentally.

A husband and wife came to my office together. They were parents of grown children, in fact, there were two grandchildren. Trouble was in the air. After the winter's work as foreman in a lumber camp, far from home, the husband had returned, and soon afterward the wife at times found streakings of blood in his seminal discharges. Accusations of misconduct followed, answered by denials. Time went on, but his condition did not improve. Then followed the wife's refusal to cooperate in the sexual act. The husband was greatly depressed, became morose and sullen, and wordy quarrels ensued at intervals. But he did not seek medical advice until after some person had unwisely counseled the wife to seek a separation and she had entered suit for a divorce.

Then the visit to my office. Their minds had become so poisoned by this time, one against the other, that each now thought only of revenge. Their years of undisturbed, faithful, happy, married life seemed to have been entirely forgotten. He admitted that many times in the past twenty years he had suffered intensely from hemorrhoids, and examination showed a bad state of chronicity. Still, she would not accept my statement that this might be the cause of his present condition. The husband, through anger over being wrongfully accused, allowed the suit to come to trial within a short time. In the time intervening, someone meddled with the court, and a wise and prudent judge frustrated the plans of attorneys, by postponing his decision until after a course of treatment, which he ordered for the man, had been taken and a report of the same made to the court. The treatment restored the man to perfect health. Time, with continued advice from the judge brought about the wife's absolute belief in the innocence of her husband, and "they lived happily together ever after."

Vaccine- and Serum- Therapy in Everyday Practice

IX. Infections of the Mouth and Throat

By W. C. Wolverton, M. D., Linton, North Dakota

[*Continued from October issue, page 835*]

Alveolodental Pyorrhea

IT is only in recent years that the enormously important role of pyorrhea in the causation of metastatic infections has been adequately understood. So much has been said and written, of late, on this subject that we cannot begin to cover the matter in a part of one paper, because, of necessity, the space is limited. Consequently, for a full and complete consideration of the matter, the interested reader is referred to the mass of literature which has recently appeared in medical and dental journals, noteworthy among recent works upon the subject of pyorrhea being the epoch-making volume by Bass and Johns, "Alveolodental Pyorrhea."

In practically all cases of pyorrhea ("Riggs' disease"), microscopic animal parasites known as amebæ, are found to be present in the tooth-sockets affected by the disease, and Bass and Johns have made out a strong case against these minute offenders as the probable primary infective agents in this condition. However, if these amebæ be the primary infective agents, they are soon overshadowed by the secondary invasion of hosts of pathogenic bacteria, among which may be named streptococci, the various staphylococci, the

pneumococcus, and micrococcus catarrhalis, while other, probably less important, organisms present are various spirochetes and vibrios.

As a pathologic condition, pyorrhea is bad enough in itself, causing, as it does, the loss of the teeth and an extremely offensive breath; but, the real importance of Riggs' disease lies in the metastatic foci of infection which travel in its wake. Its connection with follicular tonsillitis, postnasal catarrh, the various infectious processes affecting the respiratory tract, chronic gastritis and enteritis, and the anemias (both simple and pernicious) is now generally admitted; so also are its relations to the various joint infections, many cases of endocarditis, and nephritis.

Too much cannot be said as to the importance of eradicating this disease, just as soon as it is recognized—for reasons which should be perfectly obvious; but we cannot enter into that phase of the subject here. As to treatment, prophylaxis, naturally, is of first importance; and it goes without saying that everyone should regularly make use of a proper toothbrush. Next, if people would have their teeth "looked after" by a dentist every three or at least every six months, they would all be better off both financially and in their health; for, the dentist would be enabled to recognize such conditions as pyorrhea in their incipiency, and treatment could be applied, with a reasonable hope of success in eradicating the trouble.

Once the pyorrhea is established, however, energetic treatment must be instituted promptly. Emetine is the most efficient amebicide known, and may be administered either hypodermatically or by mouth, the former route being preferable. A series of daily injections should be given, the course extending over a period of about a week. This series should be repeated once a month for several months, until the disease appears to be cured; and then at longer intervals, to guard against recurrence.

Besides the internal treatment, a dental lotion containing emetine should be applied, by means of a toothbrush, every evening before retiring. Where the disease has progressed to such a point that the alveolar process has been destroyed extensively and the teeth show no tendency to tighten under treatment, these badly affected teeth must be removed, in order to afford ready access to the pus-pockets; which latter are to be swabbed out with tincture of iodine at frequent intervals, until the trouble is eradicated

As to the bacterin-treatment of the secondary infection, a stock bacterin containing the varieties of microorganisms mentioned in the beginning of this chapter may first be tried The proper initial dosage is about as follows: Streptococcus, micrococcus catarrhalis, and pneumococcus, 20 to 30 millions each, and staphylococci, 100 millions of each variety. If the dose be adequate, some focal reaction will be quite likely to occur in the way of increased tenderness of the gums and a slight aggravation of any constitutional symptoms present at the time of the inoculation. As long as any of the foregoing symptoms result, or if improvement takes place, the dose should not be increased. In case no improvement follows the administration of a stock bacterin, an autogenous preparation must be resorted to. The proper interval for bacterin administration is from four to ten days.

Acute Follicular Tonsillitis

This condition is due to infection by streptococci and staphylococci, particularly the staphlococcus aureus. The symptoms—such as high fever, chills, headache, backache, sweats, and local swelling and inflammation, with plugs of foul-smelling mucus and pus exuding from the tonsillar crypts—are too well known to need more than casual mention; yet, many unfortunate errors are made in differentiating this condition from faucial diphtheria. However, if one keeps a few differential diagnostic points clearly in mind, there is small chance for error in this regard.

In diphtheria, there is a "false membrane," which is an integral part of the mucous membrane covering the faucial surface of the tonsil, coagulated by the action of the diphtheria-bacillus and its toxin. This pseudo-membrane cannot be removed by the use of a cotton-wrapped probe, without the application of considerable force; and, if this be resorted to, it is prone to leave a raw and bleeding surface. In follicular tonsillitis, the crypts are filled to overflowing with mucus and pus, plugs of which protrude from the openings on the surface of the tonsils; but there is no tendency for these plugs to coalesce and form a membrane. Furthermore, when a membrane originating upon the surface of the tonsils bridges across the soft palate or involves the uvula, the condition may safely be regarded as diphtheria.

Bacterin-therapy in acute follicular tonsillitis has, in my experience, been very efficacious, not only in shortening and lightening the attack proper, but in preventing such

grave complications and sequelæ as arthritis and endocarditis.

I employ a combined stock bacterin containing streptococcus, pneumococcus, and staphylococcus aureus et albus; the initial dosage being from 20 to 30 millions of each of the two former, and from 50 to 100 millions of each of the varieties of staphylococcus. This dosage applies to adults; for children, one-fourth to one-half this dose is employed, according to the age of the patient. If no improvement is manifest in twenty-four hours, the dose is to be repeated, but slightly increased in size. If, however, marked amelioration of the symptoms follows closely upon the exhibition of the initial dose, another one of the *same size* should be given in from forty-eight to seventy-two hours.

In addition to the bacterin-therapy, it is always well to give a full dose of calomel and sodium bicarbonate and to empty the intestinal canal, in order to obviate intestinal autotoxemia. Acetylsalicylic acid (aspirin), 5 to 15 grains every three hours, is a remedy of time-tried value. Aconitine seems to exert an almost specific action on the pyrexia of tonsillitis. This antifebrile is to be given in small doses, at frequent intervals, until the temperature begins to fall, the skin becomes moist, and the pulse has appreciably slowed; then at longer intervals.

An icebag applied to the throat gives considerable relief from pain; sometimes ice-water irrigations applied directly to the tonsils materially relieve the pain. Swabbing the tonsils with 10-percent silver-nitrate solution gives great relief in many cases; but one must be careful to see that there is not an excess of the solution in the swab, else some of it may find its way into the larynx, with possibly disastrous or at least most disagreeable consequences.

Diphtheria

As we have gone into the differential diagnosis of diphtheria when considering acute follicular tonsillitis, nothing further in that direction need be said at this time. Suffice it to mention that in every doubtful case the antidiphtheric serum should be administered promptly and in sufficient dosage while the report of the state public health laboratory (or municipal laboratory) on the swabbing from the throat is being awaited. Give the patient the benefit of the doubt.

As to the dosage of the serum, the opinions of competent authorities vary somewhat; but, if one should err in this regard, let it always be on the safe side—*give enough!* In the early years of my experience as county health officer of Emmons County, North Dakota (a county of 1800 square miles' area), I administered from 1000 to 2000 units in mild cases or in cases seen during the early stage of the infection; and from 3000 to 5000 units in severe or advanced cases; and the results obtained from this dosage were very good, indeed. Among several hundred cases so treated, there were but 4 deaths. This may, to a certain degree, be accounted for by the fact that my practice to a great extent was among Russian-Germans, who are a very rugged people—for, surely, life among them has been a struggle that needs made for the survival of the "toughest," if not the fittest.

I recall in particular one instance of what "antitoxin" did in one family, some ten years or more ago. A 9-year-old boy rode, bareback, 12 miles into town to have me go out to his father's homestead. The little fellow came because he, of a large family, was the only one not down with diphtheria. The mother and 6 small children were all very ill. Two little girls, twins of about 4 years particularly, I found were desperately sick; not only the tonsils and uvula were covered with necrotic pseudomembrane, but the nasal cavities also were filled with it. As I had only a limited quantity of serum, I divided it between them, the two little girls receiving only 2000 units apiece. Yet, both recovered.

In another case, one of laryngeal diphtheria, a little girl was cyanotic, and nearly asphyxiated when first I saw her. I gave her 3000 units of antitoxin, and, two days later, another 2000 units. At the same time, we slaked some quick-lime and, putting this, together with a little creosote and tincture of iodine, into a teakettle with boiling water, forced the child to inhale the steam, conveyed through a long paste-board mailing-tube. In a short time, the effect of this treatment was apparent; the membrane on the vocal cords began to loosen, and soon large masses of it were coughed up. This gave great relief for several hours, when the steaming had to be repeated. However, the child ultimately recovered.

This steaming with freshly slaked lime I can recommend strongly, as I have seen it save the lives of many children, who, without this adjunct treatment, would have been asphyxiated before the serum could have performed its mission. Of course, tracheotomy might have taken the place of the steaming; but then, tracheotomy has its disadvantages, and a physician would have a hard time per-

suading Russian parents to allow him to perform this operation on their child. As to intubation, that is difficult, at times even dangerous, since one may dislodge the pseudomembrane downward when placing the tube, with the result that the bronchi may become occluded and death occur.

Returning to the question of dosage, I now use between 2000 and 5000 units of the serum in the "mild" cases and 10,000 units in desperate ones. I know that competent authorities give as high as 30,000 units in bad cases; but, personally, I doubt whether 30,000 units of antitoxin will save life when 10,000 would fail. However, as was said earlier in this paper, if one should err as to dosage, let it ever be on the *safe side*, and, *give enough serum!*

A great deal has been said about "serum-sickness" and "serum rash"; but, in an experience covering the administration of over 1000 doses of antidiphtheria-serum, I have seen just 2 instances where an eruption followed, while I saw no case of anaphylaxis. The two cases of rash occurred in two children in the same family, to whom the serum had been administered simultaneously. This resembled the rash of measles very closely and gave rise to a troublesome itching; but it soon disappeared.

Strychnine is the drug for cardiac weakness in diphtheria; while the "triple arsenates" of iron, quinine, and strychnine are indicated during convalescence. Formic acid, in dose of 5 to 18 minims, has been recommended as a cardiac tonic in diphtheria; and it is believed by some that this drug prevents, to a certain extent, the postdiphtherial paralysis of the pharyngeal and palatal muscles. I have used it in a number of instances, but could never quite convince myself as to its actual value or otherwise.

I am a firm believer in local application in the treatment of diphtheria. The tonsils should be swabbed frequently with one of the mild alkaline antiseptic solutions, and the membrane should be gently removed as soon as it will come away without the application of any great amount of force. The necrotic surface is a most suitable medium for the multiplication of the diphtheria bacilli, and it should be gotten rid of as soon as it loosens. Fresh pineapple-juice contains a proteolytic ferment (bromelin), which exerts a digestive action on the pseudomembrane of diphtheria; it is, therefore, a suitable food or beverage in this disease; also, it may be applied directly to the tonsils by means of a swab.

In diphtheria, there almost always, if not always, is present a mixed infection, the streptococcus and staphylococci being coexistent with the diphtheria bacillus. Consequently, I have, of late years, been in the habit of administering a combined bacterin containing the former varieties of organisms, at the time I administer the antidiphtheria-serum, and I believe the results justify me in this method of treatment.

Peritonsillar Abscess (Quinsy)

In this, as in all abscesses the correct procedure is to evacuate the pus as soon as you are certain that any is present. However when a person who in the past has had one or more attacks of quinsy experiences the premonitory symptoms of a "sore throat" a dose of a stock bacterin, such as was recommended under the heading of "Acute Follicular Tonsillitis," together with calcium sulphide to saturation, quite often will avert a recurrence of the old trouble.

As soon as the presence of pus is evidenced by a bulging prominence in the region of the tonsil, lancing is in order. The "line of safety" for the incision is halfway between the base of the uvula and the last upper molar tooth, cutting along this line. When this line is followed, one is not very likely to encounter any sizeable blood-vessels. It is always well to make a generous opening, for, a small incision will close within a few hours, and a repetition of the lancing may become necessary. Should the incision close too soon, it may be reopened by quickly pushing into the old wound a Kelly hemostatic forceps, closed up, and then opening the blades.

The patient who has had repeated attacks of quinsy should be urged to have the offending tonsils removed, that is, completely enucleated, since this is the only certain method by which he may forever rid himself of the possibility of recurrences. The operation may be done very nicely under local anesthesia (with novocaine and adrenalin).

Chronic Follicular Tonsillitis

Of late years, the work of Billings, Rosenow, Murphy, and others has forcibly called our attention to the fact that practically all the oldtime "chronic rheumatism" cases are but metastatic infections having their primary focus in diseased tonsils, pyorrheic tooth-sockets, accessory nasal sinuses, and in colons with stagnant fecal currents. It is nothing short of wonderful how these "rheumatic" cases improve consequent upon the thorough, complete removal of chronically diseased

tonsils, the proper treatment of pyorrhea (as heretofore outlined), the drainage of pus-filled antra and frontal sinuses, and proper colon hygiene; however, bacterin-therapy must, positively, be employed simultaneously and conjointly with other indicated measures, usually of a surgical nature.

In these cases of long standing, the opsonic index usually is so low that the removal of the primary focus or foci of infection will hardly suffice to effect a cure of the metastatic infections in joints, muscles, and nerve-sheaths; and it is here that bacterin-therapy can, and does, do wonders. It is true that bacterin-treatment alone is of great benefit in these cases; nevertheless, it is a self-evident fact that the rational procedure consists in first removing the primary focus of infection, if a permanent cure is to be expected.

The bacteriology of chronic follicular tonsillitis is practically identical with that of pyorrhea (q. v.); and what has been said as to the bacterin-treatment of the latter disease will apply equally to the former.

With regard to the surgical treatment of this condition, I wish to register a vigorous protest against employing the tonsillotome, which I regard as a relic of the dark ages. Even in the hands of an experienced operator, this instrument never will remove the entire tonsil, but it leaves, usually, from one-third to two-thirds of the diseased gland, thus opening wide the lymph-channels and, so, often aggravating rather than alleviating the trouble. Besides, the tonsillotome is very liable to hack out pieces of the faucial pillars, with consequent impairment of vocal resonance.

When a tonsil is diseased to such an extent that it requires surgical treatment, nothing short of complete enucleation will suffice; free dissection, under local anesthesia (with novocaine and adrenalin), followed by the use of the cold wire snare (the Tyding snare), gives splendid results, with the minimum of risk.

Infections of the Salivary Glands

These infections are comparatively rare, but occasion a great deal of suffering to the patient, and trouble and worry to the doctor when he does encounter them. In all the cases I have seen, the infection could be traced to a preexistent pyorrhea or chronic tonsillitis. Consequently, when a patient has been the victim of an attack of this nature, due attention must be paid to the predisposing cause.

The bacterin-treatment of infections of the salivary glands is identical with that of acute follicular tonsillitis, which see. Infection of the salivary glands quite commonly ends in suppuration. Sometimes the abscesses may be drained through the floor of the mouth and this route, when practicable, is preferable to an external incision, in that it leaves no visible scar. Saturation with calcium sulphide at the beginning of the attack I believe to be a valuable aid to bacterin-treatment.

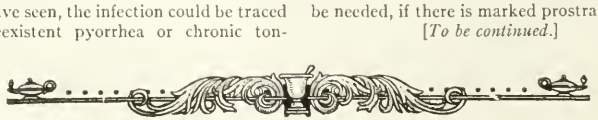
Ludwig's Angina

This severe form of infection of the structures constituting the floor of the mouth probably is due to the streptococcus. Sir Almroth Wright, in his "Studies in Immunization," describes a desperate case of this rather rare affection. In Wright's case, a surgeon had made multiple deep incisions into the indurated area, but the wounds would not drain. Wright then administered 60-grain doses of citric acid, at 3-hourly intervals, and within twenty-four hours lymph had begun to ooze from all the wounds. The administration of the acid was then discontinued. Bacterin-treatment was not instituted in this case, as a determination of the opsonic index showed the latter to be 1.8.

Here, it was merely a matter of securing a plentiful supply of the antibody-laden serum in the streptococci-filled tissues, in order to effect a cure. Had the index been below normal, a streptococcus-bacterin would have been indicated. In the absence of a determination of the index, the safe procedure would have been to administer the bacterin, anyhow, as a "safety-first" measure.

As long as there is any doubt as to the specific causative relationship of the streptococcus to Ludwig's angina, it is well to combine the staphylococcus aureus with the first-named organism. The dose of the streptococcus pyogenes is 30 to 60 millions, and of the staphylococcus, 50 to 100 millions. Calcium sulphide, to saturation, if the patient can swallow, is indicated. Strychnine may be needed, if there is marked prostration.

[*To be continued.*]



An Account of an Epidemic of Measles*

With a Review of Eighty Cases

By E. W. Gardner, M. D., Webster, Iowa

MEASLES is not some new fangled disease, but has an ancient and florid pedigree. Whether the bug or the disease was the pre-existent we cannot say, but the differentiation of the disease as an entity may be placed in Sydenham's time. Prior to that, an individual with fever and artistic dermal decorations was at a loss to differentiate his affliction as measles, smallpox or scarlet fever. But, after Sydenham classified the aches, even the medicos could recognize the clinical pictures.

Measles being satisfactorily contagious, pandemics of the affection have scourged continents. In 1775, the Sandwich Islands made the acquaintance of the white man's Bible, booze, and measles. Within four months, 40,000 of the 150,000 population gave up the ghost in disgust and efflorescence. The historian fails to state which was the active agent, or whether the action was a synergistic one.

During 1834 to '43, Europe was swept by measles, and the dust was blown to adjoining continents. The mortality rate is not recorded, which is just as well since it prevents a dubious comparison with the present rate. Panum, a physician in the Faroe Islands, records himself as having been moderately busy in 1846. It seems the gentle measles had neglected these islands for some 65 years; consequently its introduction was quite successful. Of the 8000 population, more than 6000 entertained him with great warmth. Many died, while more regretted that they could not.

With such competitive headliners, my account of an endemic affecting only some 80 individuals must be considered inconsequential. Nevertheless, played to the restricted house of our small community, as a means of entertainment it was quite effective.

Because of the bodily limitations of a medico not built—as you will observe—according to the architectural specifications of a Jess Willard, it was found impossible to examine and tabulate the findings of the cases as well as I could wish. The 50 odd patients whom I saw ranged in age from eight weeks to 50 years. The age in no wise determined the disease intensity; of the four infants affected, two were breast fed, and had been infected by their mothers.

The epidemic originated from one young man who, being in misery, desired company and sought it in a crowded public building. Having received many condolences and minute directions for infallible cold-cures, he returned to his home where he retired with hot lemonade, blankets and misgivings. Within 12 hours the lemonade was thrown up, the blankets off, the misgivings were confirmed, and he blossomed as an urticarial rose. We haven't yet decided on his rate of commission, for he's inclined to be hoggish.

Being incompetent to discover in one fervid epidemic all the endearing qualities of measles which thousands of observers in the past two centuries have found, I will now boldly crib wherever possible. I am sure those others do not object, and I hope you will not.

Apparently the laity dubs measles a child's disease because it affects children and adults alike. As a dispeller of optimism in its host, it is equalled only by its small financial value to the medical man, who is fortunate if he averages two visits per case. In this wise its value is less than that of a news item to a village newspaper; for this, as George Fitch said, is worth three insertions: future, present and past.

Measles however, is neither snob nor prude. It infects race or individual irrespective of apparel or of its lack. Apparently, however, it best appreciates the close-to-nature flavor of the savages of whom it conscientiously gathers some 50 percent to their mothers. It is just about the most transmissible of all diseases, and presumably is a bugous affair; but, as the offending bacterium has not been isolated, any one is justified in his opinion.

Goldberger and Anderson have shown that the virus of measles may pass through a Berkefeld filter, may resist desiccation or freezing for at least twenty-four hours, does not respect union rules, and becomes non-infective after fifteen minutes' exposure to 131° F.

In 1908, two Italian physicians whose names (Pacchioni and Francioni) succumbed to my pen but defy my pronunciation, made thrilling explorations into the habitat of measles virus with the hope of capturing an adult and authentic specimen. Their re-

*Paper read at a meeting of the Des Moines Valley Medical Association held at Ottumwa, Iowa, in 1915.

ports are conflicting and suggest a Peoria flavor. As Forchheimer says, "The sum and substance of this research is, that there is found a bacterium only in the secretions . . . . and that the opsonic index to this bacterium is increased."

Lorey suspects measles of a double life, I think. He does not go quite so far as the gentleman who, a few years ago, ingenuously announced that Shakespeare's plays were not written by Shakespeare but by another man of the same name, but he does suggest a very close relationship between measles and erysipelas. He says: "The erysipelas-streptococcus is the most frequent cause of complications in measles; and the intensity of an epidemic is determined by the relative presence of this in the blood and in the tonsils. With all our medical progress, our knowledge of the etiology of measles barely exceeds that of Home, of Edinburgh, who, one hundred and fifty years ago, declared the virus to be "in the blood." Forchheimer contents himself with saying that Clinical Experience, and Hektoen, confirm this postulate.

Measles is an advocate of the slogan, "From Factory direct to Consumer." In other words, the exposure must be by direct contact of respiratory secretions or blood and must occur during either the stage of invasion or of desquamation. Air may carry this contagion, but it is extremely questionable whether a third person can officiate. Again, some question whether transmission is possible during the stage of desquamation. Following the lead of Kerschensteiner, Forchheimer declares dogmatically, that there is no contagion during the stage of desquamation. Corlett asserts that contagion . . . . continues until desquamation has ceased; and his statement is upheld by Osler. Now I certainly should hate to disturb the good old Irish feelings of Doctor Kerschensteiner, but in our epidemic there was one unquestionable infection ten days after the donor had a normal temperature.

That there may be measles-carriers, as there are typhoid-carriers, is intimated by Ross in a recent London journal. He says: "Although the intracellular parasites disappear from the blood of cases of . . . . measles as soon as the febrile stage is over, they still may be found in the cells of the aural, nasal, and abscess pus for long periods after convalescence is established."

Immunity

Congenital immunity is possessed, I think, only by those whose habitation supports the rainbow. Experiments at immunization by inoculation and serums have been entertaining only. So far as I know, immunity can be gained only by due and personal affliction. Forchheimer, Osler, and others declare nursing infants to be relatively immune, even when nursing infected mothers. In our epidemic, however, of two nursing infants, both were infected by the mothers. Civilized races apparently possess an inherited semi-immunity; at least the severity and mortality rate is lower, although this might be due to the sanitary conditions being better than among savages.

Even the immunizing value of a subsequent attack is questioned. Men of wide experience, such as Schwalbe, Grancher, Anders, and Forchheimer, state that reinfections not only occur, but are not exceptional. Anders mentions one family who suffered four annual successive attacks. Certainly they should have bought coupons or green trading stamps. Maiselis has collected a series of 106 undoubted cases of reinfection, 3 of which were suspected third attacks. O. Heubner remains safely on the fence: he says that one attack induces immunity, but adds candidly that many violations of this rule occur. Barthe and Sannez report but 3 reinfections, from an experience with 1521 cases. Osler states that infection confers a complete and lasting immunity, second infections being very rare, indeed. Kerley mentions but one. Among others, one lady told me that she had enjoyed four attacks. However I am quite well acquainted with this lady, and, although excellently exposed, she failed, unfortunately, to make good in our epidemic. In his report of several thousand cases, in three successive epidemics among the same islanders, Panum does not mention one reinfection.

Infection of a child in utero, with eruption, at or immediately following birth is a matter of record. On the other hand, Woods, of Iowa City, reported, in *The Journal of the American Medical Association* for September 5, 1914, a case of measles in an infant born three weeks after its mother had recovered from the attack. There were no evidences of intrauterine infection, but several months later the child displayed an orthodox eruption. Goldberger, Anderson, Hektoen, and others have inoculated animals with infected blood and obtained an eruption with Koplik spots.

Records fail to show a mortality rate for uncomplicated measles. Osler says: "Measles-toxemia rarely produces death, and the fatal cases always are complicated by other lesions, the most frequent being pneumonia, colitis,

and nephritis." As the national annual death rate from measles approximates 13,000, the benignancy of its complications is not evident. The inflammatory process affects every mucous membrane. In severe cases, the blood is deteriorated and contains staphylococci and streptococci. Many bacteria have been credited with the production of measles, only to be shorn of their honors by later studies. The complications in measles differ in no way from the same processes in unmeasly patients. Focal abscesses are occasionally found in the liver.

Incubation

Incubation averages ten days, with a range of between five to fifteen. In suspected cases, I saw, or elicited, subjective symptoms by the seventh day. Observers differ regarding the incubation blood-picture. In Osler's "Medicine," Rurach writes: "This period shows a leukocytosis which does not persist through the stage of invasion; differing in this from scarlet-fever." Lucas, however, in *The Journal of the American Medical Association* for March 6, 1915, states: "There is leukopenia, with diminution in number of leukocytes." He adds: "A diminution in the number of lymphocytes and neutrophilic cells is noticeable a week before other symptoms, and precedes Koplik spots by at least forty-eight hours. In pneumonia, cerebrospinal meningitis, and scarlet-fever, there is a leukocytosis, but not in measles." I made but two counts, both preeruptive; both were leukocytic, in the neighborhood of 15,000.

Grumann quoted in *The Journal of the American Medical Association*, steals some of Koplik's thunder. (*Muenchen. Med. Woch.*, Jan. 20, 1914.) He says that not every measles-patient wears Koplik spots, while he always has found, in cases that later erupted, peculiar whitish efflorescences on the tonsils. These are punctate or linear and about 3 mm. in length. He says that these spots are absolutely reliable, precede the Koplik spots, and he never did like the way Koplik combed his hair, anyway. I failed to find any—spots, not hair.

I found the exanthem on the hard palate on the eleventh, tenth, ninth, and even eighth day. I found no Koplik spots in the nares, although there was coryza as early as the seventh day. Chills were rare, there being but one frank case; and this ran an uneventful, though severe, course.

According to Osler, this period of incubation may have prodromal eruptions in cases running as high as 40 percent. This shows as a fine rash appearing twenty-four hours prior to the measles eruption. I failed to find any such case.

In 1898, Bolognini described a peritoneal crepitation, which he considered pathognomic and the result of a peritoneal eruption. This is sought by gently pressing the finger-tips upon the relaxed abdomen. A to-and-fro motion will then elicit a slight friction, "as of two bottles rubbed together," but which disappears upon deeper pressure. It is not found after the skin is erupted. I found 3 cases of this.

Although I have found it described nowhere, every case displayed a characteristic tongue. What its diagnostic value may be, I cannot say, but, in every case it came early and stayed late. It was a peculiarly glazed tongue, with a moderately heavy dull-white furring down the center. In the posterior half, this deepened to a heavier dirty-brown. The central coating of the anterior portion thinned toward the edges, becoming an inflammatory red, with elevated and redder papillæ. These flaming dots invaded the anterior sixth, being set in strong relief by the fur. This appearance of the tongue was noted earlier than any other symptom, and red depressions persisted during desquamation.

The classical spots of Koplik were found in every case, except in the nursing infants, in whom the rash was scattered, light; they suffered from mild coryza, bronchitis, and fretfulness; but the temperature did not rise above 101 degrees.

Invasion

Invasion occurred in no case later than the tenth day, and was politely introduced by temperatures varying from 99° to 104° F. All prodromal pleasures were thereby increased, although two patients disavowed feeling any discomfort at any time. Vomiting was not infrequent, though less common than in scarlet-fever, of course. Epistaxis occurred early in several cases, more often in the late stages of the eruption; two cases required gauze packing. There was but one case of frank convulsion, and this, as well as a loaded stomach and all earthly ambition, was relieved by 1-20 grain of apomorphine. During the eruption, however, there were two cases of convulsions unrelated to gastric origin.

The period of invasion, without exception, comprised four days, with a temperature almost or quite normal on the second or third day; usually the latter. I saw no case

erupt at a temperature less than 104 degrees. The highest temperature was 106° F., and this in only one case; almost every other case utilized a temperature of 104 or 105 degrees. With this, there often were cold extremities and a blanched surface, thus confusing the parents. The mental effect of this fever varied from stupor to a species of mania; the majority of patients merely were drowsy and extremely thirsty, the thirst being assuaged by an ounce or less of water.

The eruption appeared between the fourteenth and the twentieth day, the great majority at the fourteenth. One failed to erupt. Of this type, Embden reports 20 cases in a series of 461. Aside from noneruption, this case exhibited every other symptom, except temperature, which did not reach 102 degrees. The patient said that this attack was a second one, occurring twenty-five years after the first. That she was three months pregnant, added interest but no complication as she did not abort, although in the past three and one-half years she has achieved one child and three abortions to my olfactory knowledge.

The characteristic odor of the breath invariably was present, but only *after* the period of incubation, and varied in intensity with the temperature. I found, contrary to the statements of the infallible laity, that measles cannot be diagnosed from the front door by the nose of the investigator, except in those houses equipped for submarine service.

We had no hemorrhagic cases. I found indubitable proof that cold air in the sickroom retarded eruption; whereas a moderately hot room (80°), with hot bathing, relaxed the capillaries, filled them with blood and induced sweating, with rapidly spreading eruption. Profuse sweating, with temperatures of 104 or 105 degrees, was common and interesting, particularly to the parents, who lost thereby an ancient and infallible axiom governing home posology.

Desquamation varied in degree and length. Some showed scales only on the eyelid margins; others were quite generous, and continued to scale for ten days. Osler says that the desquamation lasts two or more weeks, but that the scales very seldom are infective.

Cause of the Exanthem. Complications

The cause of eruption Von Pirquet (*J. A. M. A.*, June 6, 1915) believed to be dependent upon the vascularity of the skin, first; while the rash is the result of a "reaction with the measles-organism or virus which takes place in the capillaries of the skin, and may be due to an agglutination of the measles-organism by the action of its antibodies."

In our epidemic, complications were mild. *Otitis* was frequent, especially during retrocession, but contented itself—and the patient—without pus formation. Regarding otitis, Kerley says that purulent, and even nonpurulent, otitis is not necessarily accompanied by pain. *Bronchitis*, with mucus and mucopurulent secretion, was almost invariably present, but one patient escaping. There was no case of frank bronchopneumonia, although many teetered dangerously close to it. One case, typical of bronchopneumonia in every respect, resolved in a very interesting and unexpected manner. Did not Osler declare that these processes may step at any point and go on to recovery, I might be inclined to question my findings. I should say, however, that the dividing line was very elastic, and that bronchopneumonia is more often present than we are prone to admit—it being masked by the somatic symptomatology. Pleuritic pains were frequent, also neuritic and muscle pains, but no frank pleurisy. Neither was there any lobar pneumonia nor pulmonary necrosis. One lady, 50 years of age, had an endocarditis of mild degree, but this resolved without disaster. *Stomatitis* was common, but was not accompanied by gangrene. *Ophthalmia* was uniformly present, without corneal erosions. Styes frequently relieved the tedium of convalescence. Diarrhea, particularly after indiscreet feeding, was encountered, but was not intractable. There were 4 cases of complicating chickenpox. There was no marked nephritis, though albumin in small amounts was found. *Pseudocroup*, with later extrusion of membranous shreds, was seen in 2 cases. No bacteriological examination was made of these. There were no instances of pharyngeal or tonsillar membrane. Aphonia, following laryngitis, and persisting four and six days, respectively, occurred in 2 cases. There were no skin complications.

Relapse has been reported by several observers. Corlett, however, believes these to be cases of unrecognized rubella.

The *diagnosis* sometimes may present difficulties, particularly in sporadic cases. In this epidemic no such difficulties arose, and the factors to be considered in differential diagnosis, therefore, will receive no attention here.

As to the *prognosis:* Although in itself measles is a nonfatal disease, complications are so certain to accompany it that prognosis

must be guarded. In Sydenham's time, measles was more fatal than even smallpox, and there are records of similar portent that antedate his by centuries. Osler reports epidemics in which the death rate has exceeded 50 percent, particularly in hospitals where septicemia complicated. In a series of 5067 cases in Paris hospitals, 2003 were fatal.

Age is a factor in the mortality rate. In the Parisian report mentioned, the death rate at 1 year or under was given as 62 percent; this steadily diminishing with the increase of age until the age of 40, at which period the death rate again began to rise.

Prophylaxis and Treatment

Regarding prophylaxis, Forchheimer says optimistically: "Prevention of measles is an impossibility," because "prevention of any disease is possible only when its natural history is known." Since the incubation-period often entails no great discomfort, a carrier quite often may infect an entire community, and then wonders at the devious ways of Providence. Added to this, there is the time-hallowed attitude of parents in exposing their young children, so that they "will not have it later"—Osler advises postponement of infection, when possible, until after the fifth year; and Newman says, aptly: "The prevention of measles is largely in the hands of the public." Isolation is the solution.

The *treatment* of measles—here I pause in admitted perplexity. In measles, as in courtship, every man has a method all his own. In either instance, I take it, the doctor pays due attention to the symptoms the while he makes such speed as is possible toward a predetermined end. The technic of treating premarital insanity does not here concern us. Still, to continue the figure, what Holt says regarding measles, is equally applicable to the other: "It is a self-limited disease, and there are no known measures whereby it can be aborted, its course shortened or its severity lessened." Now, that may be very true; yet, Ander's words anent the treatment of measles are suggestive; "The treatment is necessarily symptomatic," he says; "hence, our efforts should be directed toward protecting the various organs that are most likely to become involved by complications, remembering at the same time that the nose, ears, eyes, and throat are involved during the fever-stage, and that the skin is in a very susceptible condition."

In the belief that our appellation of "physic——ian" applies for good and historic reasons, almost every one of my patients received castor-oil. With what accompanying words they swallowed it need not here appear, but it did not tarry long. However, it was not followed by any later cathartic, because of the colitis present in the eruptive stage.

Fever and aching responded but faintly to anything. In the first dozen cases, I experimented with aconitine, aspirin, phenacetin, acetanilid, and the like, but soon came to Anders' view. I did not use cool sponging in the preeruptive stage, but gave frequent hot baths instead, with cold to the head. Codeine was valuable. Acidulated beverages produced bloating. Hot drinks were no more efficient than cold ones for eruptive purposes. When high fever was associated with cold extremities, atropine, glonoin or whisky were used, and heat externally. To relieve the clinical picture of pain, fever, bronchitis, nervousness, dry throat, and so on, I found no other one preparation so valuable as the powder whose formula, compounded over a century ago, bears the name of its originator, Dover.

As to the amount of light to be admitted to the patient's room, writers differ. Some authors contend that red light possesses curative properties. The red light I have not tried, but the amount of light admitted was left somewhat optional with the patient. I do not advocate total exclusion of light, for several reasons, not the least of which is the tendency for a feverish patient to "lose himself" in darkness and to become delirious. Boric-acid solution and zinc-oxide ointment were used in the eyes.

Milne, in the *Journal of the American Medical Association* (July 18, 1914) reports his experience with the eucalyptus-oil treatment. Briefly, this consists in the oil being rubbed in over the entire body, twice daily for four days, and then once daily until the tenth day. This, with deep swabbing with a ten-percent solution of phenol in oil, every two hours for the first twenty-four, will result, he asserts, in a very mild type of the disease and prevent complications. I did not try this method, as I did not know of it until after our epidemic.

For the skin irritation, I used olive-oil, alboline or cacao-butter, either alone or with the addition of phenol or menthol.

For the otitis, I used cocaine, ichthyol or phenol in olive-oil or alboline, in conjunction with heat, preferably moist.

For the Gospel Team whose presence made the epidemic possible, I was asked to donate one dollar, which I gladly did, and now I am industriously saving another for next year.

Therapeutic Indications in Minor Surgery

By A. D. Nourse, M. D., Sawyerville, Ala.

THE selection of the above headline is open to criticism as the very term "minor surgery" is an arbitrary one. The surgery of everyday practice, especially when the practician is so situated that immediate referring of cases to an equipped hospital and the surgeon-specialist often is far from practicable, includes both minor (socalled) surgical procedures and also major operations. Neither is "therapeutic" here taken in its narrow sense, as sometimes accepted, that is, applying to the internal administration of remedies; but is used in a broader meaning.

Since the passing of the days of "laudable pus" and the dawn of modern surgery, every effort has looked toward the attainment of asepsis, or, since this is an ideal practically impossible to secure, antisepsis, as the next-best thing. The number of agents having more or less antiseptic properties is a large one, but the majority that have attained general acceptance are coal-tar preparations of the aromatic series, particularly phenol and its cresol homolog derivatives; besides chlorine combinations and preparations designed to liberate nascent iodine, with iodine itself in alcoholic solution well to the front in its particular field. Compared with these, the silver, boron, and other kinds of compounds have found but limited employment. Phenol (carbolic acid) still holds a conspicuous place, being so prominent that its solution is taken as a measuring-unit in the classification of bactericidal efficiency; still, phenol, as such, has largely given way to other coal-tar derivatives of higher efficiency and less toxicity. So harmless to healthy tissue are some of the latter that in the hands of very many surgeons they have entirely displaced mercuric chloride, the popularity of which now is waning, although absolutely it has enjoyed the greatest vogue of any since Lister's time.

The reasons for the disappearance of this combination of mercury with chlorine from first place among antiseptics are various and weighty. Even in great attenuations, this agent destroys healthy tissue at the very time when we wish to conserve it, through its action of coagulating albumen. There is also, under certain circumstances, danger of absorption and toxic systemic effect from the use of this highly efficient germicide. The results following its accidental ingestion are too well known and numerous to require even casual mention. Altogether, it is not a safe agent, and, when other and better means for accomplishing the same result are at hand, there is no need of employing this ultratoxic.

For some years past, both when doing considerable accident-work and, more recently, when handling the surgery incident upon a varied general practice the writer has ignored mercuric chloride entirely. Various cresol and related preparations have been employed, instead, where it was desirable to use in substance a powerful yet safe antiseptic; the camphor-phenol combination, in full strength or diluted with olive oil; or pix-cresol combined in the desired proportion with a liquid diluent or boric-acid powder. In the dermatoses, including burns, carbenzol (a tar distillate) has given such good results that it is not difficult to assert that there is nothing better, even in the face of the fact that in this age of rapid evolution there may be something which has not yet come to the attention of a rather close observer.

How Chlorazene Came to Be

So engrossed were surgeons with the bichloride of mercury, that the tendency was, to stand still in development along the lines of chlorine-containing antiseptics other than corrosive sublimate, although the way was clearly pointed out by the somewhat efficacious, if not highly stable official solution of chlorinated soda (Labarraque's solution); war exigencies, however, forced chemical investigation, with the result of giving us something better in the form of a chlorine-containing synthetic.

This new compound is para-toluene-sodium--sulphochloramide, named expressively but so bulkily that, in Europe, it was commercially given the trivial name of chloramine; since this name was preempted for a different article in this country, it is being introduced here under the proprietary name of chlorazene. Thus our chlorine comes back, this time with a nitrogen-chlorine molecule linking in a substitution-product of tolul or toluene of the aromatic series. Toluol already had a place in wound treatment, namely, in our balsam of Tolu, and now we have it presented as a product of higher synthesis applied to the coal-tar derivatives.

The history of antiseptics, if only since Lister's day, would fill volumes, even leaving

out the efforts of empirical medicine, to combat (the then unknown) pathogenic organisms, and ranging from the sometimes misdirected use of "balsams" to simple water and sea-water lavage; the balsam efforts often defeating themselves by stoppage of drainage and of air thereby providing special advantages for anaerobic bacteria. With our present conception of the value of direct oxidizing agents, such as potassium permanganate, succinic dioxide (alphozone), and hydrogen dioxide, as also of the merits of the iodine- and chlorine-releasing agents, and through the results of practical observations, antisepsis has reached an advanced stage, and evidences are that clinical demonstrations, backed by laboratory findings will give us an important addition to our armamentarium in the chlorazene preparation.

Therapeutic Suggestions for the Treatment of Wounds

The treatment of wounds, other than those made intentionally through noninfected tissue and without certain cavity penetration, is one involving antiseptic measures directed against infection concerning the extent or virulence of which we are ignorant. No one can know the depth of implantation nor yet the extent of mechanical or metastic spread of infection in penetrating wounds and, hence, it is one's duty to treat every possible source of infection as though it were a nidus of trouble; of course, without an unnecessary exaggeration of free drainage by excessive tissue destruction. The principle of suspecting every wound has led to the advocacy of bacterin-therapy in all penetrating wounds. This indeed may be the ultimate procedure, not alone for preventing tetanus and hydrophobia, but also in combating the more common streptococcic, staphylococcic and other infections.

Echinacea, the Vegetable Bacterin

For years before the present vogue of biologic therapy, many physicians have viewed all penetrating wounds with intense suspicion and invariably employed echinacea, a procedure which the author not only feels to be justified, but positively demanded by the best interests of his patients. In the case of wounds that do not permit prompt and thorough cleansing and which do not promise immediate healing, the patient gets echinacea, usually also nuclein, and, when there is suppuration from the wound itself (as in carbuncles, furuncles, and the like), he likewise is saturated with calcium sulphide. If there is preexisting disease or a history of disease, especially of lues, other indicated treatment is given in addition. If there is no such history the necessity of cell proliferation for the reparative process is considered, and echinacea and nuclein are given because they raise the opsonic index and act as tissue-builders. Often they are applied to the wound directly, and, when the necessity of skin grafting was encountered, nuclein or bovinine have been used at times, with perfect success. In time echinacea doubtlessly will receive the full recognition to which it is entitled. It has recently been spoken of as a "vegetable bacterin," and as such many have used it and still do so; not, however, to the exclusion of the bacterins. Although there may be some discussion as to the selection of a bacterin other than an autogenous one, there are never contraindications to echinacea. In the case of chancroids, many apply echinacea as a routine treatment, adding nuclein and belladonna, to stimulate capillary circulation, after thoroughly cleansing the wound with peroxide of hydrogen or other suitable agent. Good results may be obtained from moist dressings, or the frequent application of this combination. However, the writer's preference is for initial cauterization with nitric acid, following the application of a solution containing anesthaine, 3 percent, and cocain, 1-2 percent, or some other local anesthetic.

The use of the local anesthetic in these cases will pay; the young gentlemen of the laity afflicted with cauterizable lesions no longer care to go about bragging of how "doc" put stuff on so strong that it smoked and hurt so that they wanted to "bite nails." People expect all operations to be painless, and the uptodate doctor must have a nearly painless procedure whether it be in obstetrics or in "burning" chancres. Anesthaine being void of the high toxicity of cocaine and novacaine, is a safe agent whether applied to open lesion or used hypodermically; hence, it is a great aid toward the ideal aim at painless minor surgical procedures.

Hydrogen Dioxide Too Much Neglected

Hydrogen dioxide is another article less used than formerly, even though its effect is, in part, somewhat theatrical and consequently psychological. The patient "just saw the corruption boil out," and this mechanical action of the "boiling out" has made this article very largely a lay remedy.

As we all know, water is the monoxide of hydrogen; this plus another atom of oxygen—which is readily turned loose—makes the dioxide

ide. The effect of this H_2O_2 is to form instantly a combination with oxidizable organic substances and produce a foam, which removes superficial and readily reached detritus. However, sufficient irrigation with a solution carrying a stronger antiseptic will usually produce better effects. Perhaps the most serviceable use for this solution is for loosening bandages and dressings when stuck to the wound by the exudate. But, if the gauze is moistened with liquid paraffin, this will prevent troublesome sticking. The tendency is to avoid dry powder dressings, using moist ones instead, except when healing by first intention is expected. Where oilsilk would seem indicated over a moist dressing, the addition of glycerin to the antiseptic solution and the gauze moistened with oil often will maintain sufficient moisture and thus prevent sticking until the next dressing of the wound.

The Tissue-Phosphates

While looking to internal aids to repair, where destruction of bone is present, we must not overlook the demand for a calcium-salt. Delayed bony union or a failure of the provisional callus to harden calls emphatically for calcium phosphate, and, as the indications for iron usually coexist, together with a call by the nerve-substance for both magnesium- and potassium phosphate, the three phosphates may be administered together with the iron, also in the form of the phosphate.

The attempt by Schuessler, to base a system of medication on the use of the twelve tissue-ingredients of the body, which he had demonstrated through ash analysis, is a bit far-fetched; still his conclusions were correct so far as they went, although he failed to allow for catalysis and the intermediate products of metabolism. His conclusions are absolutely correct to the extent permitted by his limited horizon. He called attention to one thing that is much overlooked, namely the necessity of supplying fluorine under certain conditions of needful repair of elastic tissue. Where this necessity exists, the calcium salt of fluorine is absolutely indicated, but so little of it is required that we may even follow Schuessler as to dosage and give the homeopathic calcarea phos. 3 x.

As to the dosage of the calcium salts, we need neither agree nor disagree with anybody. Except in the case of the lime-saturated aged, no harm results from a liberal dosage with calcium, nature taking just what it wants and throwing off the surplus. For the hypercalcified aged, the treatment is modified, since little bony union is expected, anyway, and a partial ligamentous union is quite acceptable to the medical attendant who wishes that the "other doctor" had this particular case.

Surgical Aid When Needed

Because there is a trauma or an extension of some pathological condition to the point where surgical interference is a necessity, is no reason why nature's call for assistance should not be heeded beyond merely extending mechanical aid. Nature can beat the rankest drugstore substitutor when it comes to trying to reach out for "something just as good" in furnishing organic constituents or catabolic needs. Nevertheless, there is no reason why we should not strive to supply nature's wants. Of course, one thing is always to be remembered in treating surgical cases. Mechanical aid is the immediate paramount consideration, and we have no right to expect the impossible from therapeutic means. All things having been balanced and surgical interference decided upon, the latter becomes the cardinal point, while other measures become aids to surgical success, in many instances even essential to it. In days not far distant the distribution of medical men will be arranged so that the internist no longer will be required to combine surgical duties with the broad responsibilities of diagnostic and therapeutic work; for, someone devoting himself to surgery always will be at hand instantly to exercise his skill. Many times the internist desires the help of the exclusive surgeon, despite his own careful training in anatomy and surgery. However, he cannot confine himself to "first aid", at present, but must use his talents to their full effect.

What the general man so situated can do in the way of saving digits and even limbs, when his first impulse is to amputate, often is surprising. A fairly good rule to follow under these circumstances when an arterial supply to the extremity can be demonstrated, is, to try to conserve it—always remembering the possibilities of the establishment of collateral circulation. Always remember that under most circumstances taking the chance of saving is justifiable—do not make a cripple when there is a possibility, perhaps by means of a later secondary operation, to save a part. Clean up the ragged wound, trim off hopelessly lacerated parts, restore parts to as close an apposition as possible, by means of ligatures, pressure, and bandages (also ad-

hesive plaster), push antiseptic measures—then give nature a chance.

Local and Hyoscine-Morphine Anesthesia

Even in comparatively minor surgical procedure, better work can often be done under general anesthesia; this being true also for the reducation of fractures and dislocations. It is a good thing to have a trained anesthetist at hand, but how very much one can accomplish all alone in "the brush," is surprising, also gratifying to the patient and no less to the physician. A hypodermic injection of hyoscine-morphine-cactin, the half-strength tablets (1-8 gr. morphine hydrochloride, except for robust individuals) to be repeated if needed and followed by inhalation of small amounts of ether or chloroform, will, with a little practice, make it possible to push anesthesia to any desired point. This obviates the usual after-effects from chloroform or ether and lessens the probability of nausea and shock, as well as of pneumonia and other complications. The operation is followed by sleep—perhaps hallucinate but harmless talk—instead of nausea and other postoperative complications. Employ local anesthesia where practicable, but general anesthesia where the purpose is served better. Practice will enable a skilled therapeutic artist to get his therapeutic tone and pitch, as does a musician of skill playing on his favorite instrument. The success of the large measure of surgery still done by the general practitioner, in an age of specialism, comes from such a man's familiarity with, and reliance upon, therapeutic knowledge, and upon extreme care in adopting antiseptic measures, forced on him by his surroundings.

Control of Hemorrhage

Hemorrhage, other than that requiring torsion, or tying of vessels, is controlled by copious irrigations with hot water, under pressure, while the circulation is determined to the uninjured periphery by giving glonoin, hyoscine, atropine, and, sometimes, morphine. This complication is present less often when working under hyoscine-morphine-cactin anesthesia, the danger from fear and from nervous sensibility being reduced or wholly eliminated thereby.

A circumscribed field requiring a bloodless surface to work on calls for a suprarenal-gland preparation. This is worthy of attention also in cases of passive internal hemorrhage and in hemophilia. These latter accidents may justify the use of active styptics, say, Monsell's solution, on limited areas, while later they call for the vigorous use of nuclein, preferably hypodermically, together with the use of calcium salts and iron. In "bleeders" absolutely no unessential wound enlargement is permissible, even the extraction of a tooth or a scratch being liable to draw upon one's every resource known to arrest the bleeding. The writer knows of no rule to govern the treatment of hemorrhage in this diathesis. It often means that one must resort to the entire list of styptics as well as to the administration of all agents that have been found of value in controlling internal hemorrhage.

WORK AND WORRY

Worry never did a thing
  That was worth the while—
All a world of worrying
Ever made a heart to sing
  Or a lip to smile.
Worry wraps herself in woe,
  Worry bows her head—
Worry never sees the glow
Where the lights of morning grow
  In the sky ahead.

Work has won the victories
  In the stress of strife;
Work has crossed the stormy seas,
Work has solved the mysteries
  In the lore of life.
Work has never time for tears
  While there's more to do—
  Work, upon the path of years,
As the golden goal appears,
  Sees some goal anew.

Worry sits with folded hands—
  Work is on its way.
  Worry lingers on the sands—
Work discovers larger lands
  In the dawning day.
Worry weeps and worry sighs
  Over broken toys—
Work looks up with beaming eyes
To the newer, bluer skies
  And a path of joys.

Work and worry travel near,
  You who seek the goal,
One with voice and visage drear,
One with heart and face of cheer
  And unconquered soul.
Worry in her mourning dressed,
  Work in garb of glee,
Walk beside at your behest—
Which of these upon your quest
  Shall your comrade be?

—Douglas Malloch, in National Magazine for January, 1914.

What Others are Doing

EFFECT OF ECHINACEA UPON THE LEUKOCYTES

Echinacea is one of the favorite remedies of many members of the eclectic school of practice, who prescribe this drug in all septic conditions. While this root is said to have been employed by the Indians against snake bite, clinical observation has assigned to it alterative, antiseptic, diuretic, diaphoretic, and stimulant properties.

Echinacea seems to be one of those drugs the action of which cannot be established in the laboratory by experiments with healthy animals; if, however, it can be shown that the drug produces certain effects upon the circulation or upon the composition of the blood, which can not be explained in any other manner, the inference is justified that these effects are referable to its influence.

Dr. V. von Unruh, of New York, whose laboratory results with echinacea are cited by Professor Ellingwood in his "Materia Medica," reported, in *The Eclectic Review* for April, 1915, upon the results of his studies undertaken for the purpose of determining the exact action of this agent. Inferring from clinical observation that echinacea must act upon the leukocytes, Doctor von Unruh studied these under the influence of the drug in different diseases, and his clinical and laboratory researches, conducted through a period of more than three years, have shown that echinacea increases the phagocytic power of the leukocytes, causing in the blood effects parallel with and similar to those produced by the vaccines, without any of the objectionable features of the latter, such as local or constitutional toxic symptoms.

In determining the action of echinacea upon the leukocytes, the author investigated its influence upon the socalled blood-picture of Arneth, in which the degree of nuclear fragmentation in the neutrophile leukocytes is considered.

Arneth believes that the neutrophiles with one undivided nucleus (class 1) and those with only two fragments (class 2) are young cells and that their phagocytic power is not as decided as that of cells with greater fragmentation of nuclei. The changes in the course of infectious diseases, in the relative frequency of the cells arranged by him under classes 1, 2, 3, 4, and 5, showed that under favorable conditions the cells belonging to the higher classes became more numerous ("shifting to the right"), while under unfavorable conditions a "shifting to the left" took place.

The prognostic significance of this observation was confirmed for tuberculosis by Dr. Jacob Kramer, of the Montefiore Home Country Sanatorium. Dr. von Unruh found that in infectious diseases in which a "shift to the left" had taken place the administration of echinacea reversed this condition, causing the more powerful phagocytes to become more numerous. He also found that leukocytosis was stimulated by the drug and that it caused the normal proportion between white and red blood-cells to be restored, while the percentage of the different neutrophiles became normal. At the same time, phagocytosis became very marked, when before the administration of the drug, no sign of it had been in evidence.

Having made these observations in persons suffering from tuberculosis, pneumonia, pleurisy, diphtheria, and tonsillitis, von Unruh concludes that echinacea is of value in actively increasing and supporting the self-defense of the organism against invading pathogenic bacteria.

SPLENECTOMY IN PERNICIOUS ANEMIA

We have not attempted to give in these pages an account of the fine work which is being done by our surgeons in aiming to cure pernicious anemia by removing the spleen. This method of treatment was introduced only three years ago by three investigators (Eppinger, DeCostello, and Klemperer) working independently, and, while these men were prompted by different reasons, this procedure was followed by such marked improvement that it was quickly taken up in Germany and later in our own country.

While there is considerable difference of opinion as to the possibility of effecting a permanent cure by means of splenectomy, the testimony concerning it on the whole is

distinctly favorable. Thus, for instance, Krumbhaar (*Jour. Amer. Med. Ass.*, Sept 2, 1916, p. 723) reports a total of 153 cases in which the patients underwent this operation, as reported by the various surgeons who performed the operation. Of these 153 patients, 30 died within six weeks, presumably from the effects of the operation. Of the remaining 123, all but 24 showed definite improvement, both in their general condition and in their blood-picture. Of the 24 who survived but failed to improve, a few obviously were harmed. Of the 53 who had survived the operation for more than six weeks and remained under observation, 44 had continued to improve, but 9 of them now were exhibiting signs of relapse.

The best results from this operation are obtained when it is preceded by blood transfusion, and those who relapse after the operation still may be greatly helped by this expedient.

Personally, if called upon to treat a case of pernicious anemia not too far advanced, the present writer would seriously take under advisement the possibilities of this operation.

SIMPLE TREATMENT FOR CORYZA

Acute coryza always is an annoying condition and very frequently proves rather obstinate unless potent remedies—for instance, atropine—are taken to physiological effect. Of the many alkaline antiseptic and other solutions that have been recommended and used in the form of spray, for the local treatment of the inflamed mucous membranes, none have ever produced such decided effect that the present writer could satisfy himself as to their actual merit. Consequently, it was with a good deal of interest that he took note of an experience published by Dr. W. S. Whittemore, in *The Boston Medical and Surgical Journal* for August 17, according to which insufflations of kaolin powder seemed to clear up very promptly the coryza and tonsillitis resulting from nose and throat infections. Doctor Whittemore employed this treatment on himself and on members of his family and found that the applications were not irritating, but, rather, distinctly soothing. Similar results were obtained by use of this powder in the case of private patients.

Not long ago, the present writer was consulted by a member of the CLINIC staff, who had a very annoying acute coryza. Having in mind Doctor Whittemore's article, a trial of kaolin powder was suggested, and the effect proved to be all that could be expected, the inflammation being allayed and the discharge of the secretion arrested in the course of half a day. It is suggested that our readers try this very simple treatment. Kaolin is an entirely "indifferent" powder. It is not absorbed and exerts no chemical action, but acts by removing bacteria from the mucous membranes and rendering them harmless by adsorption, while simultaneously binding any toxins present. The same substance has been found effective in the treatment of discharging wounds, in leukorrhea, and similar affections.

A CONTRIBUTION ON TWILIGHT SLEEP

It is refreshing to read an unbiased discussion of twilight sleep—one which, on the one hand, cannot be charged with overenthusiasm, while, on the other, recognizing the undoubted advantages of this method of producing eutocia. In the June, 1916, number of *Surgery, Gynecology and Obstetrics* (p. 156), Dr. Charles B. Reed describes his observations following the delivery of 100 women, at the Wesley Memorial Hospital of Chicago, according to a modified twilight-sleep method. He writes that 29 percent of his parturient women were practically free from pain and 50 percent entirely so. One woman said that she "suffered almost as much as when she had her menstrual flow"! By only 2 of the women relief was not admitted.

Doctor Reed declares that the objections urged against this method of analgesia are not justified. He found that there is no marked prolongation of labor; that "blue babies" are not more common with "twilight" than without it; that postpartum hemorrhage occurs just as frequently in twilight sleep as out of it—and no more so. He does not believe that the onset of the second stage is rendered unrecognizable or that symptoms of antepartum hemorrhage and uterine rupture are more likely to be obscured, providing the physician has average skill, than they would be without this use of a narcotic.

On the other hand, he finds that the strength of the woman is conserved and the convalescent period shortened; that her comfort is vastly increased; that the method does no harm, "being entirely harmless both to mother and child, when properly administered"; and, finally, it is a valuable and permanent addition to the resources of the obstetrician, much of the antagonism to it arising from an inability or an unwillingness to bestow upon a woman in labor the unre-

mitting attention and the higher technical proficiency which this procedure demands.

Contraindications to twilight sleep are: primary weakness of the labor-pains, hemorrhage, a prolapsed cord, and a lack of correlation between the size of the pelvis and the child's head.

HYPOPHYSIAL TUMOR, AND BLINDNESS

The *Therapeutische Monatshefte* for October last quotes two writers, B. Fleischer and E. Wehrli (*Klin. Monatsbl. f. Augenh.*, 1914, pp. 625 and 653) dealing with tumor of the pituitary gland and associated impairment of vision and other pathologic conditions.

Fleischer, of the Eye Clinic of Tuebingen, details 3 cases—patients ranging from 47 to 50 years in age—in which extirpation of the gland (2 reached endonasally, and by Schlosser's operation) was followed by gratifying results; the tormenting headache disappeared and the eyesight was saved; whereas blindness inevitably supervenes within a few years if hypophysiotomy is abstained from.

One of the cases, that of a woman of 38 years, described by Wehrli was as follows:

Nine years previously, this woman was taken sick, resulting in premature cessation of the menses and great gain in weight; while six months ago she began to complain of headache, tiredness, and growing impairment of eyesight. By means of ophthalmological tests and skiagrams, the presence of a hypophysial tumor was demonstrated, whereupon the patient was placed upon a course of pituitary gland (Merck's tablets), 1-10 Gram once a day, and 1-2 Gram potassium iodide three times a day. After half a year, reduction of weight, from 135, to 114 kilograms; acuteness of vision: R had risen, from 0.1, to 1.4; and L, from Hdb in 30 cm., to 0.24. The field of vision likewise was enlarged.

SUGAR FOR SHOCK

Doubtless every reader of CLINICAL MEDICINE will remember that sugar, in the form of glucose-solution, is being considerably employed by surgeons to replace hypodermoclysis with sodium-chloride solution for overcoming as well as preventing shock. This method is discussed by Doctor Burnham in *The American Journal of the Medical Sciences* for September, 1915. Doctor Burnham sets forth that the dextrose supplies energy to the cells and aids in tissue repair; that it diminishes acidosis and thus tends to remove one of the factors in the cause of postoperative vomiting; that it neutralizes certain poisons in the circulation, such as the conjugate glyceronates; and lastly, possibly acts as a direct cardiac stimulant.

Kausch, quoted by Burnham, recommends a 7-percent solution of glucose intravenously, and 4- or 5-percent solutions by hypodermoclysis. The solution should be freshly prepared (using ordinary drinking water) and sterilized. As much as 2 or 3 liters of this solution should be introduced in the space of twenty-four hours.

In addition to its subcutaneous administration, glucose may be given, in 5-percent solution, by means of proctoclysis during anesthesia and for a period of several days after operation. The administration is continued, by the Murphy drip-method, after the patient has been returned to his bed; and Doctor Burnham declares that this should constitute a routine measure after every severe major operation. From 300 to 500 calories may be introduced into the body, by one or both of the methods named without giving discomfort to the patient.

THE ACTION OF MORPHINE AND SCOPOLAMINE UPON THE UTERUS

It is very generally believed that labor is prolonged by morphine and scopolamine (hyoscine) administered during childbirth. This view is not supported by Barbour and Copenhauer, who, in *The Journal of Pharmacology and Experimental Therapeutics* for November, 1915, page 529, report some experiments conducted with the uteri of freshly killed guinea-pigs and cats, both pregnant and nonpregnant. Solutions of morphine and scopolamine, of various degrees of concentration, were applied to the uterus, when the following effects were observed:

1. Morphine, in concentrations of from 1-20 to 1-10 percent, stimulates the isolated uterus to an increase in tone.

2. Scopolamine, in concentrations of from 1-200 to 1-20 percent, increases the tone of the isolated uterus. In this respect, therefore, it appears to be about ten times as powerful as morphine.

3. No inhibitory action upon the tone of the uterus could be obtained with either of the substances. Very high concentrations of either tend to produce a tetanic condition of the organ.

4. Neither synergism nor antagonism could be demonstrated in the direct action of these drugs upon the uterus.

In another article in the same journal, Doctor Barbour expresses the opinion that neither of the two alkaloids under consideration will cause profound changes in the activity of the pregnant or of the nonpregnant uterus of the cat. Whatever inhibitory influence they may exercise upon uterine activity can not depend upon any direct action upon this organ. If there is any delay in labor following their use, it probably is due entirely to the cerebral action of these drugs.

MANAGEMENT OF ENURESIS

A very helpful article upon how to cure bedwetting is contributed by Dr. Harry Apfel to *The New York Medical Journal* for September 2, 1916 (p. 466). His method of treatment is epitomized as follows:

1. The mother should be told the proper time for the child's bath, play, exercise, time of meals, and the time for going to bed and rising; dwelling somewhat on the importance of a properly ventilated room, the temperature of which should not exceed 65 degrees. The child should not be made too comfortable in its bed. The mother should be admonished to keep the child's bowels regular. In a few words, explain to the mother the plan of your entire campaign, then request her assistance.

2. Give to the mother a written diet-list. Specify the hour for each meal. Forbid spicy food-articles, also tea and coffee. Lay special emphasis on the point that the child must receive no liquids after 5 o'clock in the afternoon—in case of great thirst, water by the teaspoonful only may be allowed. In highly acid urine, forbid strongly acid fruits. Limit pastry, also red meats.

3. Start with the supposition that a physical examination has failed to reveal pathological lesions of the central nervous system, also that there is no adherent clitoris or vulvovaginitis (girl) or a long and narrow prepuce (boy), or calculus in the bladder. Also, that the child has no hypertrophied tonsils or adenoids. If any such condition does exist, correct it, if possible.

4. Next, direct attention to the child itself and attempt to get its confidence and cooperation—which means everything, if treatment is to be a success. Give the child a vessel and ask it to urinate right in your presence, and at the word of command make it stop and then start again. In other words, train the power of control of its bladder-sphincter. (Pisek.) Tell the mother to do this once a day. Then give the child a blank sheet of paper, on which the days of the week are written, and ask it to keep its own record, by simply writing every morning either "yes" or "no" opposite the day of the week. If it is too young to write, let it put a cross (X) under "wet" or "dry," depending on whether it wetted the bed or not that night. This, the author finds, makes a great impression on the child s mind, especially if a prize is offered for a completely negative chart at the end of the month.

In the case of older children, especially in obstinate cases, passing a cold sound into the urethra may help a great deal when other methods fail.

5. The author believes that these are of less importance than the things mentioned above. At any rate, the value of drugs has been greatly overestimated. Of all drugs which were given a trial, atropine still holds first place for efficacy, if used properly. It is best given in an aqueous solution containing 1-2 grain of the sulphate to the ounce. Of this, give drop-doses, three times a day, for two days; then increase to 2, to 3 drops (Kerley), watching for dilated pupils and flushed cheeks—unless results are seen before this.

In anemic children, iron, especially the albuminate, is recommended. For strongly acid urine, potassium citrate should be given.

If the urine contains colon bacilli, that should be corrected with hexamethylenamine. In extremely nervous children, especially those prone to attacks of petit-mal, the bromides should be given in large doses.

A great deal of patience and perseverance is required both by patient and doctor, for in many cases the wetting stops, to return, however, as soon as treatment ceases. It is well, therefore, to continue the treatment for some time after a cure apparently has been brought about, in order that the patient may overcome the habit, of which it may not always be able to rid itself easily.

CALCIUM SULPHIDE IN INFANTILE PARALYSIS

In *The Medical World* (August, 1916, p 301), Dr. V. E. Lawrence suggests the use of calcium sulphide and echinacea in the treatment of infantile paralysis. He is confident that the use of these remedies will be effectual in cutting short this disease. He has not used the remedies personally in infantile paralysis, but he has had experience with it in scarlet

fever, smallpox and septicemia, with gratifying results.

In the September number of the same journal (p. 335), Dr. O. E. W. Swan declares that she has actually used calcium sulphide in three cases of infantile paralysis. In the first she also used aconitine to control temperature, a laxative saline and the intestinal antiseptic (sulphocarbolates) tablets. A brother of the child, who was also attacked, was treated in the same way, while another child made a good recovery under similar treatment.

Doctor Swan says she hopes never to encounter any more cases of poliomyelitis, but from her previous experience, she believes that under this treatment 95 percent would recover completely.

THE IMPORTANCE OF FOCAL INFECTIONS IN OBSCURE DISEASE-CONDITIONS

Some years ago, it was claimed that many cases of disease of unknown origin stood in direct relation to infected foci in the tonsils, and it was shown that very frequently the distressing clinical symptoms were remedied by the removal of the infected glands. Quite recently, the importance of bacterial infection existing in and around the teeth, as in alveolar pyorrhea, has been demonstrated, this condition being responsible for various affections the sources and causes of which have been very obscure and often have been labeled as "neuralgia" or similar general designations.

Since the French professor Dr. A. Poncet established "tuberculous inflammation" as a clinical entity, the possibility of more or less distinct inflammatory conditions quite distant from a demonstrable primary focus has been presented, and explained as occurring either in consequence of a dissemination of the infection through the blood stream or as a manifestation of bacterial intoxication. In all related studies it was especially the tonsil and more recently pyorrheal pus-pockets which were incriminated as the original foci of infection, and Dr. E. C. Rosenow (formerly of Chicago, now associated with the Mayo foundation in Rochester, Minnesota) has investigated and elaborated the important subject of focal infections in a manner that must prove of importance to the clinician. (See, for instance, *The Journal of the American Medical Association*, Nov. 13, 1915, p. 1687.)

In a paper read at the last session of the American Medical Association at Detroit, in June, 1916, and published in *The Journal* for August 26, Rosenow reports on some experiments made with infectious material obtained from the tonsils and from pyorrheal pus-pockets of patients ill with various diseases.

A number of the animals infected with the organisms cultivated from these lesions acquired the affections and bacterial localizations which corresponded to those from which the bacteria originated. The interesting point was established that localizations strikingly like those in the patients were obtained, in different animals, with the bacteria as they were isolated; but, after these bacteria had been cultivated artificially for a time or after a number of successive passages through animals, the same localization, that is, the same election of certain definite tissues, no longer was manifested.

It follows that certain bacteria or certain strains of bacteria possess a decided selective action for definite tissues, for instance, the spinal cord or certain portions of it, muscular tissues, and so on. To take one example: Lesions in or about one or more of the posterior roots occurred in 83 percent of 18 animals, following the injection of streptococci from cases of brachial, intercostal, and postherpetic neuralgia. The occurrence of neuritis in 28 percent of these animals is noteworthy. This and the high incidence of lesions in the skin, namely, 28 percent (chiefly herpes), occurred in animals injected with relatively large doses. So far as can be determined, this is the first experimental demonstration of the probable nature of this form of neuralgia.

It is difficult at the present time to explain these various results or to draw definite practical inferences, beyond pointing out the necessity of ascertaining in every instance of any disease, the origin of which is obscure or which resists appropriate treatment, the existence of a possible focus of infection from which the source of the occult disease may be traced.

These focal infections by no means are always situated in the tonsils or in pyorrheal pus-pockets. Rosenow has demonstrated that often they may be traced to an infection of the appendix or to isolated focal infections elsewhere, possibly localizations that are not accessible clinically, but can be ascertained only on necropsy. Perhaps our diagnostic methods will be developed in time so that the existence of all these focal infections responsible for obscure diseases can be discovered with a reasonable degree of certainty.

Miscellaneous Articles

Prevention and Treatment of Tetanus by Antitoxin

FOR years I have been fully satisfied as to the efficiency of antitetanic serum in preventing lockjaw and have likewise been convinced that the serum is at least of value after symptoms of tetanus have made their appearance. As a matter of course, the European war offers ample opportunities for the study of a great variety of surgical problems and beliefs, more particularly because it necessitates such a large amount of emergency-surgery. Moreover, the wounds of soldiers requiring treatment practically never are clean; as a rule, they are contaminated. Thus it was that during the early months of the conflict tetanus was of frequent occurrence, until the administration of antitetanic serum as early as possible after injuries had become a routine procedure as a prophylactic measure.

According to some of the military surgeons, tetanus now is infrequent, and they attribute this to the prompt injections of antitetanic serum. On the other hand, others insist that serotherapy has not given any convincing results in tetanus, even as a prophylactic measure, and that it is ineffective after tetanus has actually made its appearance. On the whole, however, preponderating opinion insists that every wounded person should receive a prophylactic dose of antitetanic serum, no matter how insignificant the lesion, if there is any probability of its being contaminated.

In contradistinction to these opposing opinions expressed by European military surgeons, American authors are practically unanimous in asserting the efficiency of specific preventive serum-therapy of tetanus, and this opinion has received support particularly in the experience with injuries sustained during the annual Fourth of July celebrations. As to this fact, it must not be forgotten, though, that these explosive celebrations have become much less numerous than formerly, because of the crusade for a sane Independence Day some years ago instituted by *The Journal of the American Medical Association*; nevertheless, the warning and insistent counsel repeated from year to year in all our medical journals, to have resort, in all cases of flesh-wounds, to preventive doses of antitetanic serum, has been an important factor.

In this connection, the idea suggests itself that the relative frequency of tetanus-infection and also its virulence possibly may differ in the United States and in Europe, because in the old world the war is being waged on, and in, soil that has been infected with the specific bacillus during many centuries of manuring, in that respect greatly differing from conditions obtaining in our own country. Certain it is that the experiences of American physicians and surgeons are so universally favorable to the virtues of antitetanic serum, when used as a preventive, that no medical man dare risk neglecting this precaution in all cases of wounds contaminated by soil.

It would be a mistake, however, to assume that this procedure fully meets all conditions of prophylaxis in the case of contaminated wounds, and that, with it attended to, they may be permitted to close forthwith. A little consideration will show the truth of this assertion.

The tetanus bacillus is not carried into distant organs, there setting up mechanical injuries, as is the case, for instance, in infections with the pyogenic bacteria, with the tubercle bacilli, and so forth. After having entered the wound with contaminated soil, dust, clothing or other fomites, the bacilli of tetanus remain in or near the wound without contributing directly to its seriousness, so that the wound may heal and close; but, the bacilli of tetanus continue to multiply, doing even better, for the reason that they thrive best in the absence of air. As long as the tetanus bacilli are alive and multiply, however, they produce their characteristic toxins, and these act more particularly upon the nerve-tissues; which accounts for the fact that convulsions

are the most characteristic symptoms of the disease of tetanus.

Once the toxins have reached the central nervous system, the difficulty of influencing them by means of antitoxin is immensely greater, because of the fact that the antitoxin, even if administered intravenously, does not reach the nerve-tissues in sufficient amounts to neutralize the toxins. In that case, direct treatment by injection into the spinal canal or along the nerve-trunks affords greater hope of success.

This being so, the preventive treatment of tetanus manifestly consists, not only in administering prophylactic doses of antitoxin, but, in addition, in destroying all tetanus-bacilli present in the wound. It must not be forgotten that a certain amount of antitoxin can neutralize only a corresponding quantity of toxin. If more toxin is elaborated, it must produce symptoms of intoxication, unless it is neutralized by further doses of antitoxin; and it is for this reason that the further secretion of toxins must be prevented by energetic antiseptic treatment of the wound, with a view to destroying the tetanus-bacilli harbored by it.

One of the foremost favorites among antiseptics is iodine, which, moreover, possesses the power of rendering tetanus-toxin non-toxic. It was believed, therefore, that the usual treatment of wounds, swabbing them freely with tincture of iodine, would suffice for preventing tetanus. Unfortunately, experimental investigations and clinical observation have not confirmed this opinion, and it seems that iodine can be of use only when it is applied to the infected focus, so that it can come into direct contact with the toxin before this is absorbed. There is, however, this difficulty, that iodine exercises a coagulating action upon albuminous substances and thus tends to seal up the wound, thereby only creating conditions that are favorable for the growth of the bacilli of tetanus.

It seems, then, that iodine can not be considered as the best possible antiseptic for the purpose of destroying the bacilli of tetanus, but that we must look further for such an agent. It appears to me that we have such an agent in the preparation recently elaborated by Dakin and Carrel. This antiseptic, paratoluenesodiumsulphochloramide, or, for short, chlorazene, is attracting wide attention among surgeons the world over, and it promises to prove of far greater and far more universal value than any antiseptic agent with which we now are familiar. I believe that it will be found of service in destroying the bacilli of tetanus present in any wound, and I feel safe in recommending the free use of chlorazene-solution in the treatment of such wounds.

H. J. Achard.

Chicago, Ill.

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[It has always been a mystery to us why so few physicians resort to tetanus-antitoxin in the treatment of perforating skin wounds, to prevent lockjaw. Veterinarians use this antitoxin *as a routine in practically all cases.* Is a human life worth less than that of a horse?.—Ed.]

A RHAPSODY ON IODINE: ITS VALUE AS A GERMICIDE, ESPECIALLY OF THE TETANUS-GERM

Your editorial on tetanus, appearing on page 557 of the July number, beyond dispute is correct advice. However, what will those thousands do who are not financially able to bear the costs involved in using the serum, not to mention the thousands of accidents occurring in localities where the serum is not available inside of twelve or twenty-four hours? What are those victims to do—wait and risk infection while the serum is being obtained? I say, no! Pardon me for my seeming assumption of authority; but, then, I must call attention to the fact that every physician, no matter how poor or secluded from the world of commerce, has the one ideal drug that will destroy the tetanus-germ, as well as any other infectious germ, provided it is applied early enough. I mean ordinary tincture of iodine.

No physician, I am strongly tempted to say, ought to be allowed to practice medicine if he does not keep on hand a supply of tincture of iodine and always to hand for immediate use. I will say, though, without fear of contradiction, that no physician who ever to any extent has used the tincture of iodine and in years of practice has learned its many-sided applicability as a local application will be able to name any drug or combination of drugs that possesses greater germicidal power and at the same time less toxic or tissue-destroying properties. Indeed, I will venture to say that never any injury, laceration, abrasion or incised wound infected with any germ capable of producing blood-poisoning (and that is what tetanus is) will give rise to symptoms of infection, if the lesion is thoroughly swabbed out with undiluted tincture of iodine and then closely covered with apinol dressing within a reasonable time after

its infliction. And by reasonable length of time I mean two or three hours. [Apinol is a proprietary article not generally known.—Ed.]

You say I am a crank about iodine? I am, and I have ample reason to be so. After having been helped by it to cure pulmonary tuberculosis, cancer of the breast, and blood-poisoning in different stages and degrees, and to obviate the consequence of the bite of rabid dog and rattlesnake who wouldn't be a crank? "Seeing is believing, is an old maxim, but true, and no lesson is learned half so perfectly as that which comes by experience. I could cite dozens and dozens of cases of varied diseases and septic conditions in which iodine played a very important part in my hands and helped to save many a life.

Do not understand me to say that I deprecate the use of serum-treatment—far from that! I am just as much an enthusiast about those serums that have proved their life-saving power; but, still, I repeat, if you have not the needed serum on hand, trust to nothing but the full-strength tincture of iodine (and lots of it!) while you are waiting for your serum to arrive. You will find that you have made no mistake. It is 100 percent ahead of the mercury-bichloride solution in vogue for disinfecting wounds. However, do not merely wash out the wound as you ordinarily do with the bichloride-solution (as mistakes have been made with that), but go down to the very bottom of the injury with your iodine. It will not act as an escharotic as pure carbolic acid does, while, on the other hand, it destroys disease-germs and at the same time stimulates cell proliferation and granulation.

Do not take my word for these statements, for I am nothing but a country doctor, but try my way—and you will find the best friend, in the greatest number of complications, you ever had. I speak from twenty-eight years of experience—which ought to be ample time for a little consideration and thought.

Finally, a suggestion here that seems deserving of attention. Incorporate 5 or 10 percent of tincture of iodine in liquid paraffin and use it as a spray for the nose and throat, repeating two to four times a day, and I believe that you will find in this a positive preventive of infantile paralysis. Try it!

J. R. S.

——, Missouri.

[The high opinion which our correspondent entertains of the merits of tincture of iodine undoubtedly is fully justified, and under certain conditions this remedy may be counted on to supply an efficient prophylactic for tetanus. It must, however, not be forgotten that tetanus is a manifestation of a bacterial intoxication and that it is not due to the local action of the tetanus bacilli themselves. The bacterial toxin, once it is produced in or near the wound, travels with extraordinary rapidity along the nerve trunk, and other remedies are required for the treatment of the actual disease of tetanus.

However, since in all cases of infected wounds the possibility of tetanus must be kept in mind, and since the first principle of treatment demands to disinfect the wound with regard to all microorganisms that may be present, the immediate application of tincture of iodine or some other good non-toxic antiseptic always is good treatment, and it has been found very serviceable by the military surgeons in the European war. Of late, however, greater interest has been shown in the chlorine-carrying antiseptics. —Ed.]

SOME NEW THINGS IN THE THERAPEUTICS OF EMETINE

Among my dispensary-patients of last fall, there presented herself a poor woman about sixty years of age who gave the following clinical history: She had been suffering from chronic eczema of the right lower leg for over fourteen years, which condition was complicated, about seven years ago, by an ulcer resulting from scratching mosquito bites. This ulceration gradually extended until the sore measured about 5 cm. in diameter. The eczema had, at one time, been of the oozing type; although, when I first saw it, it was essentially scaly. The woman said she had tried about everything and consulted many physicians; but rather had grown worse.

My regret is, that I took no culture from the ulceration—which partook of that gangrenous dirty-gray appearance and was very sensitive to pressure—in order to ascertain whether any pyogenic organisms were present in the ulcerated area.

My method, which in this instance was somewhat in the nature of an experiment, was as follows:

After cleansing the ulcer with boremetine, full strength, I carefully bandaged the leg in cotton gauze saturated with half-strength boremetine-solution and sterile water, twice daily. Also, I administered emetine hydrochloride hypodermically, once a day for three

days, then every other day for three injections, making, in all, six injections of 1-2 grain each; with the result that the condition steadily improved, the ulcer healing and the eczema subsiding after all irritation had disappeared. I have not heard from this patient since she passed from my observation, that is, since over a year ago when she was discharged cured.

My reason for reporting this case is, because I believe emetine will find a large place and may prove of great value in the treatment of many chronic infections of the skin and its invaginations, and that it may yet be shown to have a germicidal effect on pyogens other than the entamœba buccalis.

I have used emetine-hydrochloride (Abbott) injections in two cases of puerperal hemorrhage, after ergotin had failed to stop the bleeding. Each time, I was surprised to see the hemorrhage controlled by a single injection, without any distressing symptoms developing; thus being able to repair the cervix lacerations at once.

Philip A. E. Sheppard

Boston, Mass.

DOCTORS AS INSPECTORS UNDER THE HARRISON LAW

After reading all the pros and cons on this Harrison antinarcotic law, I believe that the best way would be for "Uncle Sam" to appoint physicians as inspectors. The government could select men who had practiced medicine in the country not less than fifteen years, men who are often "up against it" and have most of the "hard nuts to crack." How they do manage with this new and peculiar law God only knows—I am sure no one else does.

Some twenty-five years ago, I, with other doctors gave, hypodermically, in six hours, 5 grains of morphine sulphate, and then did not relieve the suffering in a case of injury, by accident, to the nerves of the victim's forearm and hand. We had to leave that man a solution of morphine. Although he took the narcotic for days, it did no harm, neither did it relieve the pain to any great extent. Nothing seemed to do him any good, yet, this man never had taken alcohol or any opiate in any form, so far as we could find out. Just one of those strange cases.

I must repeat that this new law is a puzzle to many physicians as to what or how they should do about it. If you, dear Editor, can help my rural brethren, or, in fact, any of us doctors, to find the drug that will take the place of opiates, or can help to change this troublesome law, so that the conscientious physician is not placed in the position that now he is, then you will be a friend worth having, indeed.

B. Mosby Smith.

Los Angeles, Calif.

CORNEAL ULCERS

To the man in general practice, the man on the firing-line, the man who comes face to face with unexpected conditions, who has no time for consultation by reading authorties or is too remote from his confrères to call consultation, who stands completely alone and must at once and from his own initiative act promptly, safely, and well, in order to ameliorate suffering, save limb or limbs, organs or life itself, permit me this morning, before you start out on your busy round, to tell you of one or two things that have come to my attention during a practice extending over forty busy years.

We will now take up the subject of corneal ulcers.

It goes without saying, of course, that the eye-specialist knows all about it; but then, his office is far away and at present his fine equipment is not at your immediate disposal. It may be that he may be found listening to our talk before we get through. In the meantime, you may be facing a rapidly growing corneal ulcer, in the farm-house, the cabin, the lumber-camp, on the prairie or in the mines. The question is, What are you going to do about it? It is necessary for you to get very safely and scientifically busy, or somebody will lose the sight of an eye, maybe of two eyes. He may become totally blind. You will lose prestige.

I was taught, among many other good things handed down to me by my preceptors, that a "big dose of epsom salt is a mighty good thing for a sore eye." No reason assigned—with them, the end justified the means. Later, I found out why; which I shall show later. Now I will outline my treatment.

First of all, irrigate the eye with a 4-percent cocaine solution. This gives relief from pain and dilates the pupil, thus drawing back to safety the imperiled iris. Irrigate constantly or at frequent intervals with boric-acid solution, *very hot* (the eyeball will bear water so hot that it would burn the skin around the eye), either by means of an eyecup or by immersing the eye in a cup overflowing ful with the solution. At first trial, this seems

impossible, but the patient soon will learn how to do this, the relief from pain and inflammation experienced encouraging him in this; being told to hold his head far over and dip his eye into the liquid near the far side of the cup. In the intervals or if the condition does not call for this frequent bathing, put into the eye one or two drops of castor-oil. This, when dropped into an eye inflamed from any cause, will prove soothing and allow of the free movement of the eyeball without giving pain. This is worth knowing! Be sure the oil is of best grade and fresh.

You know that the "onion-skin" layers of the cornea, when ulcerated, will curl and roll in and hold the disease-germs in such a way that external applications of washes and germicides fail to arrest the eroding, phagedenic action on the inner and under sides of the ulcer. Now, then, take a medicine-dropper, the end of which is smooth and free from chipping or fractures and having a rubber nipple that is large and of good action, fill it full of water, and sterilize by boiling. When ready for use, place point of the tube directly over the ulcer, press out the air in the bulb, then relax the pressure on the bulb. The edges of the ulcer will begin to unroll under the suction. Jerk the dropper off quickly, and the edges will come out still more. Immediately drop in a solution of argyrol or protargol, then after a brief interval irrigate with boric-acid solution. This is the technic. A word to the wise is sufficient.

Meantime, we have been looking after the patient's general condition. He has been given tablets of calomel, 1-10 grain, till 5 have been taken, one tablet every five minutes; the tablets being chewed. Also, as soon as the tablets were all taken, we have had him take, dissolved in *hot water*, a heaping tablespoonful of epsom salt, followed by a copious draught of cold water. Repeat the epsom salt in four hours, a dose of 1-10 grain calomel and soda to be given morning, noon, and night for five days.

Immediately after the epsom salt has been taken, the patient is put to bed and then sponged every half hour with a solution of epsom salt in warm water, in the proportion of 1 to 32 (or, a heaping tablespoonful to a quart). It is best to have several gallons prepared at once.

What is the object of these baths? We take in and utilize oxygen, and we produce and throw off carbon dioxide. Epsom salt is magnesium sulphate, and magnesium sulphate has an affinity for carbon dioxide. The patient is to be bathed all over and kept between sheets or, when the solution can be applied so as to reach the entire outside surface of the body, the external bath draws out from under the imbricated covering of the cuticle the imprisoned carbon dioxide. (By way of parenthesis: This system of medication is of universal thereupeutic application and will help you out in many a severe case of fever or retained bodily poisons.)

The epsom salt in the alimentary canal sweeps out the fecal contents, and, so does for the inside lining of the body what it is doing for the outside. You have depleted the system by skin and mucous membrane, dilated the capillaries and flushed them with rapidly moving blood, drawn out the curled-in edges of the ulcer. You have applied the germicide to the germs *in situ*, removed the pain and inflammation from the eye, and by the use of the castor-oil enabled the orb to rotate without friction. You have cured the man.

To cure, is, to take care of—you have saved an eye, perhaps a life; surely, a reputation. You have done a fifty-dollar job, for which you may get one dollar or maybe only thanks for treating a sore eye. The patient doesn't know, nor ever will; but, you know and I know that you have done a God-like thing, for, we are as gods, knowing good and evil, and gods because we choose the good. Do I put it too strong?

> He who rides through the darkest nights
> And breasts the swollen streams in his errands of mercy
> Can have no title too high bestowed on him.

C. S. Cope.

Detroit, Mich.

THE TREATMENT OF ENLARGED PROSTATE GLAND

It has been my privilege to read several interesting articles on the treatment of enlarged prostate gland, contributed to your valuable journal by Dr. W. J. Robinson, of New York City. Now, Holy Writ tells us that all men are made of one flesh and blood, but it does not say, of one mind. So, while I admire the Doctor's statements from a strictly scientific point of view, I am forced to conclude, after thirty-five years of experience in treating the condition in question, in men in the various walks of life, that an enlarged prostate gland, with all its attending complications, cannot be permanently cured by means of massage or the high-frequency

current, and the physician cannot promise absolute relief from future incident suffering.

If I am correct in my contention that the early removal of the middle lobe of the prostate gland is the only way in which a complete cure can be effected and the sufferer saved from all the attending ills, then I ask, Why temporize? Why not operate in its earlier manifestations. and thus save some poor fellow man from a living hell?

Let me cite two cases that have lately come under my observation.

A man, 72 years of age, had suffered from enlargement of the middle lobe of the prostate gland for eight years; had tried all methods of treatment, but received only temporary relief. He was operated upon eighteen months ago, at the Hahneman Hospital, and now is entirely well.

A brother physician, 60 years of age, had suffered for five years from enlarged prostate gland. He was a busy man, and for a full year, in making his calls, rode in his automobile sitting on a pillow. He despaired of ever being cured, because all these temporizing methods had failed him absolutely. He told me that he had reached the end of his rope. He either must get permanent relief or he would quietly step out into the great beyond. I persuaded him to lay aside his professional work and have the diseased gland removed by the high operation. He went to the Hahneman Hospital in New York and had the operation performed, remaining six weeks building up. Today I met him, and he says he hardly could realize that he ever had had such a trouble. He looks the picture of health and is again attending to his practice.

Let me add: We can not serve two masters. Let mine be for an operation. Three weeks in Old Hahnemann, and then for good health once more.

CHAS. H. WILSON.

Middletown, N. Y.

SMALLPOX—AND THE CALCIUM-SULPHIDE TREATMENT

Apply this pink slip (my check) to the striped wrapper on my journal and see it change color! I would not miss the CLINIC, for anything. I like to read of the delights experienced by the occasional discoverers of calcium sulphide and the "awful" doses they give.

Grandfather was a physician, father was a dentist, but my ambitions were frowned upon when they tended toward matters medical, and, so, I drifted into the newspaper-game—and there is where this story opens.

Ben Hackett loafed around the office a great deal and, aside from being in the enjoyment of a constant and vigorous supply of boils, began to exhale an ever-increasing odor that was abominable—some doctor was giving him 8 grains of calcium sulphide a day for his "comforters."

March 26, 1901, we were quarantined because of smallpox in the house—my wife had an attack of confluent type. Hackett's boils and my wife's awful "mattery" condition suggested calcium sulphide to me, and I suggested the suggestion to the doctors. "No, it will cause her to abort", they said. After she had been in a comatose condition for sixty hours, the doctors pronounced her past hope. Then I took a chance. I did not *know*, but I could do no worse than hasten the inevitable. Besides, Hackett's boils kept haunting me.

I got a pound each of flowers of sulphur, carbolic acid in crystals, hydrogen peroxide, and about 350 1-grain coated calcium-sulphide pills, and a package of compound licorice-powder.

I bathed the sick woman in phenolized water, dusted her with plenty of the sulphur, to absorb the pus and prevent the gown and sheets from sticking to her. I attempted to cleanse her mouth with a tablespoonful of hydrogen peroxide—and, horror, she swallowed it! (I then believed it to be poisonous taken internally, in common with many of the laity today.) Before I could collect my wits to call help she vomited—description unnecessary to the initiated.

"If Hackett took 8 grains of that calcium sulphide for a few boils, 40 grains for my wife, who is easily five times worse, will be about right," I reasoned. So, I gave her 22 of the pills, and then a teaspoonful of the licorice-powder on top. By now, I myself was feeling pretty bad, the "shot" were as thick as they could be under my skin. So, I took 11 grains of the sulphide and the licorice-powder. In about an hour my wife vomited another mass of pus, and in it I saw some of the undissolved pills. Soon afterward, I began to feel "ticklish," but believed it due to the "scenery" just removed and the fact that I had not been in bed for nine times twenty-four hours. Consequently, I took a small drink of whisky. After a while I gave another 22 grains and a dose of powder to my wife, and when she began to show symptoms of nausea I gave her whisky. Soon after, she opened what she could of her eyes and asked

for something to eat. A cup of hot milk satisfied her, but I called a doctor, because I believed it the "rally before death." I was scientifically assured, though, that it was improvement. I slept that night.

In the morning, I repeated the bath and dosage, and by about noon the patient's bowels moved—oh, oh! oh!! As we both felt considerably better, I reduced her night-dose to 20 and mine to 10 grains, repeating it the next morning. Her next two doses totaled 36 grains, then 32, then 28, and by that time every one of her pustules had dried up and the scabs come off. Twenty-seven days later she gave birth to a 9 1-2-pound boy, now a big healthy boy of fifteen. Of the thousands of "shot" under my skin, only two developed into pustules.

As stated, I was not then a physician; but after this I was called to a good many homes where one was down with smallpox and others were "coming"—the same treatment was the rule, "because it worked," that is, because those down got up and those up staid up.

I have as little fear of an attack of variola, under the above treatment, as I have of a midnight call for croup, with calcidin and apomorphine in my handy case.

Incidentally, I have lately received a No. 8 case. If it were the only one in the world, money couldn't buy it—I had what I needed —and, brother, doesn't it make a fellow feel "lumpy" in the throat when that awful agony goes out of a mother's eyes and the baby cuddles down in a natural sleep!

ALBERT A. DAVIS.

Port Angeles, Wash.

THE TREATMENT OF GENITOURINARY DISEASES WITH ELECTRO-COLLOIDAL IODINE

The treatment of genitourinary diseases, particularly the treatment of specific urethral infections, is an ever fruitful source for discussion. I need not dwell upon the annoyance to the physician and the disgust of the patient when, after an apparent cure, the latter returns with a fresh outbreak of the discharge or with sequelæ of the infection, the reasons for which need not be discussed here. These accidents, I have found, may be avoided by treating such cases with the electrocolloidal iodines as made by Viel.

In gonorrheal infections, it should always be borne in mind that in 90 percent of the cases a posterior urethral infection is present. If this fact is overlooked, there will be absence of results, no matter what therapeutic remedy is employed. To my observance of this posterior infection and to my strict adherence to the technic as given in the literature on the electrocolloidal iodine I ascribe my success in treating this condition.

The urethra should first be washed out with a mild boric-acid solution, fairly warm. The syringes and catheters must be perfectly dry and sterile. Lubricants must not contain water. For a few visits at the beginning of treatment, it is better to inject enough of the iodine preparation in the urethra to fill it, the patient retaining the injection for ten minutes and then allowing it to drain out slowly, without stripping. The diet and other management should be as suggested in the textbooks. When using these remedies, it is better to pour out the necessary amounts into a small graduate which is placed in hot water; but care must be taken that the water covers only about three-fourths of the graduate. The heat enhances the action and, besides this, renders the preparations more limpid. The following cases from practice may serve for illustration.

Case 1. Man, age 23. Acute gonorrhea; complicating balanitis. Deep injection of electrocolloidal iodine three times daily for eight days. Application of a dressing of the same remedy, held by bandage over the parts affected, daily for eight days. Internal doses two or three times daily. Discharged cured. Reported a few times for examination during a period of three weeks. No reappearance.

Case 2. Man, age 28. Acute anterior and posterior gonorrhea. Deep injections daily for ten successive days. No complications at all. Reported one week after interruption of treatment. No need for further attention.

Case 3. Youth, age 17. Acute anterior gonorrhea with complicating herpes. Urethral injection of electrocolloidal iodine three times daily; later, daily deep injections Topical dressing for existing herpes cured the condition after four applications. Parts were well smeared, then covered with wool, and the dressing was changed once in twenty four hours. Kept on with injections for twelve days in order to be sure. Patient discharged. No return of either trouble.

Case 4. Man, age 25. Chronic urethritis Had been treated for a long period. Sound massage, bladder washes, all kind of capsules and pills and mixtures, and injections of various medicaments were tried. The patient worried and troubled and became utterly discouraged. No stricture and no prostatic trouble was present. Here, I used deep injections of electrocolloidal iodine, after

washing out the bladder, also the same remedy internally.

I continued daily treatments for two weeks, although the morning-drop disappeared during the first week. No return. Cured. Very comfortable both day and night while under treatment.

Case 5. Man, age 59. Mild chronic pyeolonephritis, with mild acute croupous exacerbation; chronic prostatitis, with hypertrophy of prostate gland, urethritis, and irritation of bladder. Frequency of urination followed by pain, and quite copious discharge from the urethra, this coming from the prostate gland, and so forth, were the annoying symptoms. I used the ordinary bladder washes, internal remedies, and so forth, but without success. Then I washed out the bladder with mild boric-acid solution, then injected the iodine. He responded at once. I did this for ten successive days, then every other day. The relief was marked, all frequency and pain having disappeared. Then I began using topical applications in the form of rectal suppositories inserted each night. The last analysis of the urine showed betterment. There were large numbers of the bacillus coli communis present in the urine, but these have diminished. He is using the Bulgarian bacillus tablets with apparently good results. Patient still under treatment.

Case 6. Man, age 62. Lithemia, with mild hemorrhage from the pelvis of the kidneys and mild pyelitis, also mild interstitial nephritis. Irritation of bladder. Frequency of urination, with pain following; pain in the back, weakness, and so forth, distressed him greatly. Bladder lavage with warm boric-acid solution, followed by instillation of electrocolloidal iodine into the bladder every three days, has made him a great deal better. Patient still under treatment.

Case 7. Man, age 26. Pustular acne of 18 years' standing. Furuncles opened as they appeared, then the iodine dressing was applied on neck and face nightly. Marked improvement followed this. After two months of treatment discharged cured.

Case 8. Man, age 30. Acute epididymitis. Intense pain and swelling. Iodine dressing freely. Covered with wool. Had him wear a good suspensory. Dressing was changed once in twenty-four hours. First dressing gave instant relief. On the fifth day all swelling had gone. Patient still wears the suspensory bandage, but the dressing is no longer needed.

Case 9. Man, age 63. Acute orchitis. Much pain, some fever, swelling of right testicle, and so forth. Was called to his home. Applied dressing of electrocolloidal iodine freely, then covered with wool. Ordered a suspensory to be worn. Gave a sedative tablet, to relieve the pain. In twenty-four hours, all pain had disappeared and he is able to be up and about. I have ordered the dressing only during the night.

Case 10. Man, age 40. Acute epididymitis. Same treatment as in case 9. Marked relief in twenty-four hours.

Before I had tested the topical use of iodine in this form, I always used ichthyol, 50 percent in glycerin; in fact, followed out the treatment suggested by Guiteras, of New York, in his work on urology. Now ichthyol is too expensive, as 4 ounces of it cost over 7 dollars. I find that the dressing indicated gives more immediate relief.

FRANK MACKIE JOHNSON.

Boston, Mass.

FRACTIONAL DOSAGE OF SALICYLIC ACID FOR INFLAMMATORY RHEUMATISM

Ever since Kolbe, in the year 1874, by his invention made salicylic acid available for general practice, this substance has been esteemed the best, perhaps the very best, remedy for acute articular rheumatism; yet, although its specific virtues are being universally acknowledged, for a long time this substance has been prescribed but sporadically in its original form of the free, uncombined acid.

Very early in its therapeutic career objections began to be raised against this medicament, the first, and most important, being, that it was so sparingly soluble, and then—largely grounding upon this indisputable fact—that in its free state it exerted an irritant and corrodent action upon the gastric mucosa and after its entrance into the circulation (also as free salicylic acid) it not alone produces irritation of the renal structures, but gives rise to constitutional disturbances in general and specifically to various unwelcome side-effects, notably derangements of the auditory apparatus and vision, to tendency to vomiting, dyspnea, and other toxic symptoms.

As a consequence of these accusations, the mitigated sodium salt of salicylic acid early became the vogue, the uncombined acid soon falling into "innocuous desuetude." Innocuous? No, not quite so—as J. Zadeck,

of the Municipal Hospital of Neukoelln, Germany, essays to prove in a preliminary publication (*Muench. Med. Woch.*, May 14, 1915, p. 614); for, he and his associates consider that these many years the entire medical profession has been chasing a phantom. As evidence of the truth of his assertion, Doctor Zadeck points to the ever-multiplying salts and condensations and similar derivatives of the salicylic radicle, of which the latter is the sole remedial element.

This fact, he maintains, should demonstrate to all that, beginning with sodium salicylate (suggested by Senator), up to aspirin and the later compound esters, all have been relative failures in the relief and cure of the painful disease in the treatment of which the prototype originally gained fame. (The same phenomenon is witnessed in the case of other diseases, the remedies for which multiply in proportion to the comparative or total lack of curative virtues of all those proposed and haphazardly prescribed.) Moreover—a fact universally overlooked—those newer derivatives finding greatest favor are those in which, successively in their appearance, the salicylic radicle (in the respective synthetics) is chemically more and more loosely attached; in other words, more readily split off and set free in the animal-economy.

And here we come to one of the principal arguments. As early as 1876 (two years after its introduction as a cure for inflammatory rheumatism), Stricker (*Berlin. Klin. Woch.*, 1876, Nos. 1, 2, 8) devised a rigid plan of dosage for securing the maximum of benefit with a minimum of disadvantages from the use of salicylic acid; and therapeutic results were assured from this regimen. But with the advent of the placebos, this proved principle of administering the medicament—and upon which assured success depended—was lost sight of and a haphazard system of dosage took its place. And, furthermore, as one new derivative after the other was put upon the drug-market, not alone was the sphere of indications widened beyond that of purely acute articular rheumatism (antineuralgic, antithermic, antihemorrhagic, and so on), but emphasis began to be placed more and more upon a given preparation's harmlessness in comparison with its predecessors, and, above all, free salicylic acid.

Here, the author submits, are reasons a plenty why the treatment of inflammatory rheumatism is not as satisfactory as it might, and should, be; limited successes with the placebos not being denied, of course.

At this point, Doctor Zadeck asserts, pointedly and unqualifiedly, that: salicylic acid (free and combined) is unexcelled as a therapeutic agent for the cure of acute articular rheumatism, provided that the exact procedure laid down by Stricker is strictly adhered to; that, the diagnosis being correct, the remedy is harmless; that under these circumstances it gives rise to such slight side-effects only as eventually constitute the unavoidable expression of every potent remedy, and as such may unhesitatingly be taken into the bargain.

As for the various deleterious effects charged against salicylic acid (free), the author admits that they all may, perhaps, be produced to some extent; just the same, they all represent nothing but innocuous concomitant phenomena that never leave any permanent damage: in fact, during an experience of many years, neither the author nor his colleagues were ever tempted to desist from their practice as herein set forth. Serious general symptoms were never observed, while any "gastric corrosions" at no time have given them alarm. The technic being correct, these symptoms remain within the "ordinary" (Stricker) limits, and can well be overlooked in the presence of the prompt and permanent objective and subjective improvement of the patient.

In this connection, it is pointed out that as the first sign of impending toxication may be considered the marked deepening of the respirations and a peculiar dyspnea. This actually was observed to set in in a very few instances, but no complications or lasting results occurred. Indeed, an early resumption of the medication followed, since *the full and complete therapeutic effect of the drug had been attained with the appearance of deepened respiration.*

This therapeutic effect, needless to state, is evidenced by a prompt decline of the patient's temperature and, more important, recession of the inflammatory swelling of the joints; and, with this, the almost complete cessation of the excruciating pains and restoration of mobility.

This happy result, however, Doctor Zadeck continues, cannot be secured as promptly and, yet, in so simple and harmless a way by any other means than with salicylic acid administered in typical dosage—and it is principally, because of these considerations that he urges a return to the use of the plain mother-drug. No doubt, he adds, similar results can be secured with the various salicyl-derivatives; and, they are entirely superflu-

ous, at all events, for reasons already indicated, while, naturally correspondingly larger amounts must be ingested in order to get the needed dose of the fundamental salicyl-radicle. Certainly, since the side-effects in every respect must be the same, reason speaks for adhering to the simpler substance if by a special procedure these can be reduced to a minimum. And this entirely neglects the question of economy.

It was just with the view to obviating these side-effects that Stricker devised his plan of dosing, and the idea, concretely, is, to administer plain salicylic acid in reduced but frequently repeated doses; 1-2 to 1 Gram (8 to 16 grains) once every hour until the effects above described are attained.

This formula was modified some years ago in the interest of the attendant as well as the patient, by extending the interval to two hours, but doubling the dose, to now 1 or 2 Grams (given in capsules or cachets); no difference in therapeutic or recognized undesirable effects being noticeable. The total daily dose ranges between 8 and 12 Grams, or, from 120 to 180 grains. The essential, important feature is that the doses be small and the short intervals scrupulously regular; thereby ensuring an uninterrupted pharmacodynamic action and affording resting-pauses for the stomach. In addition to the fact that the placebos are being prescribed in greatly reduced dosage the foregoing important point appears to have lapsed into general forgetfulness.

In this connection the reasons for this old-new mode of drugging [Entirely in line with Burggraevian practice.—Ed., also, why all succedanea can be spared may be elucidated. Other substances, of entirely different chemical constitution (e. g., atophan), have been found to affect inflammatory rheumatism in the same favorable manner as does the salicyl-radicle; and that, exclusively, is—to repeat—the abatement of the febrile and the painful inflammatory condition of the joints. No other therapeutic effect is expected from any of the specific antirheumatics. None of these medicaments (nor any other recognized therapeusis—baths, for instance) is capable of preventing relapses or inflammatory cardiac complications.

While, then, none of the prized antirheumatic specifics are truly such, it behooves the medical attendant to afford that relief so urgently demanded by the victim, and the method proposed furnishes the means. Given the typical symptomatology, he has before him the clear indication for instituting the typical salicyl-therapy as herein explicated. Whenever there are pronounced rheumatic fever and painful inflamed joints, whether primary or recurrent, this therapy is sure to be crowned with success.

And right here, following the author: if the patient can be freed of his sufferings and made to feel "well" within twelve—eighteen—twenty-four—at most thirty-six hours, he will be quite content to suffer temporarily some nausea and noises in the ears; for, the force of the attack is broken, and *he comes out better* than under the current "harmless" regimen of "innocuous" salicylic synthetics or salts and cautious dosage. This latter course inevitably means a protraction of the febrile and painful condition over days and weeks, and, with it, the ingestion, for a prolonged period, of the salicylic preparation.

The obvious deduction follows: Salicylic acid (nor its congeners) does not prevent the deleterious organic degenerations consequent upon rheumatism; the undesirable side-effect produced by it can be minimized by the heroic course recommended, inasmuch as the noxious chemical must do more harm the longer the system is subjected to its influence; while, with the prolongation of the rheumatic process, chances for the organic changes are multiplied. The cogency or bearing of the following, textually connected (and literally rendered), passage is not quite clear to the abstractor: "hence, convinced of the necessity of the amount of salicylic acid coursing in the blood in a high degree of concentration, we welcome precisely that very insolubility that favors this demand, and, consequently reject everything calculated to enhance the solubility and, thus, eliminability of the salicylic acid; therefore, as a general rule, do not [simultaneously] administer alkalis."

However, as was already pointed out by Stricker, one empirically established rule must not be overlooked: The same or only slightly diminished dosage must be continued for fully eight days after all fever has disappeared, individual conditions controlling the size of the doses; for, although there is no guarantee, this measure does serve in a large degree to act as a prophylactic against relapses or heart complications, inasmuch as the rapid abatement of the acute symptoms favors a more normal course of the disease.

The author adds that this hero c course has been followed in the presence, in "innumerable" instances, of old as well as acute (recurrent) cases of cardiac affections, without at all taking cognizance of these, and always with the same marked results. Consequently,

heart diseases constitute no more a contraindication than do existing tuberculosis, diabetes, lues, and other constitutional diseases.

In conclusion, a very few cases of rheumatism were encountered in which the treatment under consideration proved absolutely unavailing.

Author's résumé: Pure salicylic acid has been unjustly rejected in the treatment of acute rheumatism of the joints. A correct technic and method, besides a certain experience (presupposed), constitutes a medicament unsurpassed in celerity of action and, yet, harmless, in fact, decidedly helpful, in that it obviates all torturing procedures and manipulations (baths, and the like); consequently, it is excellently adapted for the treatment of rheumatic affections whenever swelling and inflammatory manifestations, generally associated with fever, have set in. At the same time, all derivatives of salicylic acid, however justified and appropriate they may be in other conditions, are entirely dispensable and superfluous, if not, indeed, harmful.

ADOLF G. VOGELER.

Chicago, Ill.

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[The doses of salicylic acid recommended in this article will seem exceedingly large to most of us, and we question very much the tolerance of many persons for 120 to 180 grains of salicylic acid a day to be "continued [even in reduced dosage] for fully eight days after all fever has disappeared." It may be that German patients will "stand for" more than American patients; certainly, none of mine are so tractable as to endure the terrific gastric distress, head-noises, and other side-effects of salicylic-acid medication on this scale, even if these disagreeable effects should prove to be "innocuous." The idea of frequently repeated administration *at uniform intervals* appeals to us; but we much prefer "*small doses* frequently repeated." The hint, that "the full and complete therapeutic effect of the drug had been attained with the appearance of deepened respiration," should be investigated by other physicians, as well as the suggested signs of salicylic-acid toxicity.

Salicylic acid has a well-established place in the treatment of rheumatism; it is valuable beyond doubt, but it ought not to be considered the sole remedy or even the best remedy in every case. Indeed, we have more faith in *thorough elimination*. In treating these cases we believe in a low-protein, meatless diet; in painstaking and persistent purgation, plus colonic cleansing; in intestinal antisepsis, always with appropriate remedies; in flushing the capillaries by hot-baths, hot epsom-salt compresses or by baking; in alkalinization with remedies like calcalith or sodoxylin; perhaps, also, in streptococcic bacterins, although with this we have had little experience.

We want to know what "the family" think about rheumatism. The subject must be of interest to you.—ED.]

SOME SPECIAL VIRTUES OF ACETANILID

The American people seem always to be going from one extreme to the other. The sage maxim "*Medio tutissimus ibis*" has never become popular on this side of the Atlantic. In fact, if the average American were to be advised, from motives of precaution, to take the middle car of a railway train, he probably would decline, on the ground that he would be caught either in a head-on or a rear-end collision.

Thus, having passed through the period of extravagant laudation, acetanilid seems now to be falling into the state of complete desuetude that usually follows. Nevertheless, it is too powerful and too valuable a remedy to be allowed to go into the discard. Its power of promptly and tremendously reducing febrile temperature fits it for many cases where nothing else quite takes its place.

In sunstroke and in temperatures exceeding 105 degrees occurring in the course of any malady, there is imminent peril of speedy death from paralysis of the brain. Whether acetanilid exerts any influence over the causal factors of the hyperpyrexia is not the question—while we argue the point the patient dies. The fever-heat is the direct cause of death, and this temperature must be brought down to a safe point very quickly; and for this we have no remedies equal to acetanilid, except the direct application of cold (which may not be available).

We may even have to give, at once, full maximum doses of the drug to get its effect, for this is one of the remedies to which we can not apply the mathematical rule and say: If ten grains of acetanilid reduce the temperature ten degrees, one grain will reduce it one degree; two grains, two degrees; and so on.

Like pilocarpine, acetanilid acts all at once, fully and decidedly, or not at all. I have never succeeded in securing "slight perspiration" from pilocarpine. Give a milligram

every five minutes, and you get no appreciable effect until ten doses have been taken, and then the patient swears the sweat is running through the mattress to the floor.

So with acetanilid: give a grain every half hour, but you get little febrile depression, until the temperature drops to or below normal with a suddenness that sends one skurrying for stimulants to combat collapse.

In temperatures below 105° F., the coal-tar preparations have been almost completely superseded by the defervescent alkaloids, which are safer, at least as effective, and far more easily regulated. Besides, the action of aconitine, and especially of veratrine, in opening the eliminants and letting toxins out of the system is so necessary in all infectious fevers that they have deservedly replaced the coal-tar synthetics.

But acetanilid has other uses, and for them it is invariably employed as the *principium*, the leading ingredient of a combination. An infinite number of compounds have appeared and have won popularity. Here are a few examples:

(a) Acetanilid, grs. 3 1-2; sodium bromide, gr. 1; caffeine, gr. 1-4; codeine sulphate, gr. 1-4. This is a good formula for severe pains, inflammatory, neuralgic or respiratory. It may be given every two to four hours, but needs watching, as cyanosis may appear. (b) Acetanilid, grs. 1 2-5; caffeine, gr. 1-5; sodium bicarbonate, gr. 2-5. For abdominal pains; repeat every hour. (c) Acetanilid, grs. 2 1-2; quinine sulphate, grs. 2 1-2. For high temperature in malaria; an excellent combination. Repeat every two hours till fever falls. (d) Acetanilid, grs. 3 1-2; caffeine, gr. 1-2; sodium bicarbonate, gr. 1. For severe neuralgias or headaches, provided the bowels are well freed first. Once in two to four hours is dosage enough. (e) Acetanilid, grs. 2; ammonium bicarbonate, gr. 1-8; veratrine hydrochloride, gr. 1-128. A good combination for fevers when there is severe headache also. Give every hour. I like it the best of all these compounds, because it does the work, giving speedy and permanent relief. Besides, the addition of veratrine supplies the one thing lacking in acetanilid—elimination of toxins. The dose of ammonia is too small to do much, but it slightly relieves acidity and acts as a mild stimulant.

Still another, powerful, combination is that of acetanilid, sodium salicylate, and ammonium bromide, equal parts. Try this in your next "mean" case of acute rheumatic fever, when the patient is howling for quick relief. Give ten grains every one or two hours, till relief.

Nearly every active clinician has his own favorite formulas for acetanilid, and when a man finds a happy combination he is apt to stick to it. I used the last-named one for many years and thought it too good to warrant experimenting, but this veratrine compound is fine.

DIAGNOSIS. URINARY EXAMINATIONS. DIABETES

The writer has been impressed lately with what seem to be facts as to certain practitioners who have been successful from a business point of view, yet, who do not cure their patients—at least not as many as they should, or might, cure. The average doctor often does not take the time to make a correct diagnosis: a few questions are asked, the patient is given some purgative medicine, and he's ready for the next. The physic removes some of the intestinal mess, and, of course, the ailing person feels better for a few days or weeks; and is satisfied. Before long, though, he is obliged to consult the doctor again.

Query No. 6055, page 1174, December, 1915, issue, of THE AMERICAN JOURNAL OF CLINICAL MEDICINE impressed me profoundly —and sadly. The doctor (I presume) asked why iodine was used by surgeons, and what is an ampule. These questions, and the others, look ridiculous, really, and need no comment.

I wish every general practitioner in the world could, and would, read what Dr. George F. Butler has to say to us about the treatment of chronic diseases. (See the January and March numbers.) No man can do a chronic sufferer any good without knowing what is the matter with him. In acute diseases, he has standing at his back a better man than he himself is (namely, the natural forces) that will do the work, anyway—if he will not interfere.

Now, here we come to the point, and I am going to relate my own experience with a patient just a few days ago, and which is only one of many. You can do just as I did, if you will, but I venture to say that comparatively few physicians make a habit of carefully examining their patients' urine.

Do you think the urine is of no importance as an outlet for a cleanup? In this case, the urine furnished me with a key which served me to arrive at a correct conclusion, and thus to the diagnosis. It is very little trouble to

press a piece of litmus-paper to the patient's tongue; and to know whether the saliva is acid, alkaline or neither is of some value. It is information!

I was talking to this man socially, when he turned the conversation to his complaint. I did not know that he was a sufferer. Said he: "Doctor, for three years I have been the rounds, but no doctor yet has done me much good. I have the headache nearly all the time. My stomach is out of fix. I have taken enough pepsins and digestants to swim a mule. My bowels act occasionally, and occasionally I pass a handful of jelly about like the white of an egg, but no blood. I sleep well, but get up with the headache. I have worked most of the time, but never feel like doing so. The joint of my neck is always sore and it hurts to turn my head. I have a very good appetite most of the time."

I asked him whether he ever had his urine examined. No, nobody ever had done or suggested that. I then told him that most likely sugar, indican, and probably other abnormal things were present in his urine and that he suffered from general acidemia. He thereupon procured me a sample of his urine extemporaneously for an immediate test, which gave these results: specific gravity, 1030; very acid; indican present; sugar present. This was enough in the way of tests (except for albumin, which was absent), and they were made in five minutes.

Now, here is a pointer: A good test for sugar is as follows: Mix two-thirds of the suspected urine with one-third of a 5-percent solution of potassium hydrate (caustic potassa) and a pinch of bismuth subnitrate, then boil for two minutes in a capacious test tube. If sugar is present, a grayish, brown or black precipitate will appear, the tint depending upon the amount of sugar present. For indican, mix in the proportion of two-thirds of urine and one-third of c. p. hydrochloric acid, add a few drops of solution of peroxide of hydrogen or a solution of potassium permanganate, mix, then add 10 drops of chloroform, and shake well. If indican is present, the chloroform will dissolve it out and make a shade of blue proportionate to the relative amount of indican present. However, to be real nice about it, I suggest that you send to The Abbott Laboratories and get an indicanmeter, also an acidimeter, together with the reagents all combined. It will pay you well.

"Now let me ask you. Did you ever drink alcoholics to excess?" "No, doctor, I never was drunk in my life." Asking further, I found that up to about seven years ago this man had drunk some whisky and beer every day for about two years. And here I will say, most people think drinking to excess means "getting drunk" every day.

The man's liver was found to be slightly enlarged and a little harder than normal. So, now you have the diagnosis. Then I explained:

"You have liver trouble. Very probably you will never be cured of this trouble, but you can improve your condition by proper diet and medication, to the extent of relieving your headache, which results from faulty elimination and body-chemistry. We can call it amyloid liver. The stomach is not wrong, but you have stasis in the small intestines, from the lack of bile and pancreatic juice, and the food remains in the stomach because it can't get any further down—it has no room to go to. All these pepsins you have been using have been useless. There is nothing wrong with the kidneys: this sugar and indican are only manifestations of something else wrong back of them."

Well, this man wanted me to treat him. I had shown some interest in his case and made these tests right before his eyes, and he believed what I said was true.

There were only two things to be done—stop introducing foods that will make excess of poison, and clean out and clean up.

I put him on a modified Allen treatment for diabetes (still accepting the glycosuria as a symptom), which means, no food. (See page 76, 207 and 254, 1916, A. J. C. M.) I allowed him to eat sauerkraut, cabbage, tomatoes, and a little light bread, and kept him on this only long enough until the sugar disappeared from the urine, which occurred in two days. I had him to take 3 drams of sodium bicarbonate per day, and 2 drams of sodium phosphate per day, and prescribed the following mixture: Specific medicine chionanthus, 2 ounces; specific medicine echinacea, 1 ounce; specific medicine peppermint, 1 ounce. Directions: 1-2 teaspoonful every four hours, with plenty of water.

In one week, the man's headache was nearly gone; the urine was alkaline and free from sugar; the saliva was neutral; bowels were acting. Very little, if any, weakness was felt from being on short rations. I am now going to allow him a little fats and sugar, and two hours after eating give him bilein and pancreatin, enough to get intestinal digestion.

Understand, I do not think that I shall cure this man. But I do expect to lengthen his life and afford him considerable relief, so

that he can work in comparative comfort while he lives. I told him as much, and he does not look for a cure; still, he knows fully that I have done an honest piece of work.

No wonder to me that the world gets full of doubt as to the value of medicines and of the men who prescribe them. This man had proof that the half-dozen doctors he has been to in the past did not do their duty, either from wilful neglect and laziness or from sheer ignorance. And he is only one case in countless thousands.

Who will be the next man at the bat?

T. H. Standlee.

Edgewood, Tex.

A DAY ON THE BOSPORUS

It was dawn of a perfectly beautiful day when we entered the Bosporus from the Black Sea. This scene, always beautiful, was exceptionally so this October morn. Having been there before, this was a delightful return visit. Roberts College, that worthy American institution, Miss Patrick's American Missionary School for girls, the Golden Horn, Constantinople, and St. Sophia were visited.

Having always been an admirer of Florence Nightingale, I betook myself to Scutari, across the Bosporus from Constantinople, where still stands the old barracks hospital where her great labor was performed. Here are the old barracks that had been used for the Turkish soldiers, and which still are used for them. It is in appearance much as it was in '55, during the Crimean war, when shiploads of sick and wounded were sent here from the Crimea for Florence Nightingale and her coworkers to nurse, and save if they could.

Nearby on the bank of the Bosporus, running water looking toward Mecca, was the English cemetery, where the dead were buried in lots of from ten to fifty, all who had died during the past twenty-four hours. They were buried in one common grave, unmarked, save in the instances of surgeons, clergymen, and nurses. Some of each profession were there. In one instance, two medical men were buried together, having died the same night.

Just over the wall were the Bulgarian prisons, and a cholera epidemic ravaged among them. The cemetery is beautifully kept by Major Lyn, a veteran of the Crimean war, who was nursed by Florence Nightingale. One particularly neat and well-kept grave was that of the United States Consul, who had served for fifteen years at Constantinople. He was born at Rochester, Minnesota.

E. S. McKee.

Cincinnati, Ohio.

PHYSICIAN AND DENTIST

Kindly define the difference between physician and dentist. I am hopeful of learning just how much of a dentist's work the law permits a physician to do, and how much medical work a dentist is allowed to do within the law.

Would a physician thoroughly trained as a mechanical dentist—that is, having pursued such training that will fit him to do the mechanical work—be allowed to fill teeth, fit crowns, bridgework, and the like, without having been graduated from a dental college or having passed the state board's examination?

W. L. Sellers.

Ringstree, S. C.

[Dr. Chas. G. Wright, M. D., D. D. S., a dentist practicing in Chicago, to whom the foregoing interrogatory letter was submitted, kindly favored us with the following reply:

"If anyone desires to practice dentistry anywhere in the United States, it is necessary for him to write to the secretary of the respective State Board of Dental Examiners of the state he has in mind as to the requirements which the state in question demands of a person wishing to engage in dental practice in that commonwealth.

"In a general way, any person is regarded as practicing dentistry or dental surgery, within the meaning of the law, who treats or professes to treat any of the diseases or lesions of the human teeth or jaws, extract teeth or prepare and fill cavities in teeth, correct malposed teeth or supply artificial teeth as substitutes for natural ones. Most of the state dental laws have a provision that nothing in the act is to be construed as preventing regularly licensed physicians from extracting teeth or treating stomatitis, and that registered dentists are permitted to administer general anesthetics when necessary in their practice.

"In the advance that has recently been made in dentistry, it often is found necessary to have radiograms taken of the teeth and jaws, and examinations made of the various fluids of the body, in making a diagnosis, and etiquet suggests that when systemic treatment is called for a medical practitioner be

consulted as to the treatment to be inaugurated."—Ed.]

THE AMERICAN TROPICS

I have read with unusual interest Doctor Hollman's articles on the Mosquito Country and the opportunities it offers. However, while the Doctor presents a fair and interesting description of that wonderful region, there are various other features that should be considered seriously by everyone contemplating exchanging his residence in the United States, with all the luxuries, conveniences, and opportunities that the best modern civilization offers, for the primitive existence in the tropics.

It is true, of course, that there is a peculiar fascination about the American tropics. A land of unusual natural beauty, the soul-stirring romance and tragedy of the days of the conquest, gold-laden galleons sailing the Spanish main, pirate-ships and buccaneers, tropical isles, sapphire seas, and spice-laden breezes have filled the picture that our vivid fancy painted as we read the stirring chronicles of those bold old days.

Have you ever felt the tropics calling, calling 'neath moonlight,
When nectar-scented, drowsy-sweet, the vagrant land-breeze blows
And the stars seem glittering jewels in the sable dome above you,
While the rising sun, at dawning, tints the eastern sky with rose?

It is said that an American who has lived eighteen months in the tropics is doomed to spend the remainder of his days there, always longing for the north, but unable to break the enchanting spell that the tropics throw around him. And, in a general way, this may be true. There seem to be no halflikes or dislikes, you either are charmed by the tropics or you hate everything that smells of garlic or sounds like Spanish.

I do not want to be classed as a pessimist, for, I like the tropics and their peoples; but, there is another side of this life, and a few suggestions anent certain conditions not clearly outlined in the picture painted by our good friend may be helpful to those contemplating choosing the tropics as a place of residence—one may not say "home."

You who read in your morning's paper the news of the world, as you sip your fragrant coffee with real cream and eat hot muffins with creamery-butter, must make up your mind to forego these comforts, and the memory of them will ever haunt your dreams if you go to those tropical countries to live. No butter, but little milk—and that boiled and more often scorched and salted—will grace your table. Coffee you will have, and you may learn to like it, even if it is only a fluid extract of the berry that will "float a pow-point" or "put a crimp in your hair."

There are to be found there practically no cook-stoves or ovens, so that, naturally, the whole dietary scheme is unique, not alone as to the articles of food, but in the manner of preparation.

Memory still paints for me a vivid picture of a certain Thanksgiving-Day dinner that the good wife had patriotically arranged for some of our isolated American friends in one of the Spanish-American countries. A tough native turkey was procured as the *pièce de résistance*—although all tropics-bred fowl served on the table appear to have been fed on the leaves of the castilloa elastica and religiously retained the rubber in their system. A sort of mestizo pumpkin, packed some leagues into town on mule-back, supplied the material for the pie customary to the Day. Our cook, with characteristic Latin assurance, claimed that he could make elegant pumpkin-pies, for he once had cooked for an American army-officer; when, however, the pie appeared upon the table, Shades of Puritan Mothers! there were two crusts, with chunks of sweetened boiled pumpkins between. However, each guest heroically did swallow one bite of the mess.

The food and cooking are not the only problems that have to be overcome or swallowed. There is the rain, rain, rain, and then the mud. Then, in the morning, one's clothing is so clammy and so smelly—even though you follow the "strange" foreign custom of taking a daily bath—and green with mildew if not worn every day, besides one's having to acquire the habit of tunking them before donning them, to jar out the scorpions, and centipedes and other visitors.

Furthermore, the tropics are the "home of the wailing donkey and the all-abounding flea." It is wonderful how long and how persistently a flea can crawl when it is under your clothing or in your bed and can not jump. Writing about beds in the tropics, the less said about them, the better. Day by day, so many times a day (except in the dry season), you have to lug your bedding out into the sun and rush it in again between showers, else it becomes too musty even for an "immune." Then, though the days are warm or even hot, you will need blankets at

night, and many times people go to bed early in the evening because of the chill, penetrating moisture in the air, and you are so "thin-blooded." It is a fact that the continuous high temperature of the tropics in conjunction with the humidity wears out those not to the manor born, it "gets on your nerves," and you long for a change to the crisp, dry, invigorating autumn days, long even to see the snow and the ice and to breathe the frosty air of the wintry North.

A person planning to go to the tropics must be prepared to forego schools, society, church, a comfortable home—I was about to add, and friends; but, then, one surely knows some loyal souls who will write to you, now and then. So, you will look forward to the "steamer-days." and the tears will come and your heart will ache if the hoped-for letters do not arrive. I feel very sure that Doctor Hollman's mail deluge was a Godsend and that as soon as he possibly can he will deliver up to the correo the necessary *oro* to get the remaining letters out of hock.

In making up your mind, you must remember that the language, the customs, the laws, the people, all and everything are different. In those Spanish-American countries, there is no law sustaining you in self-defense or in defense of your home. If a robber (and there are aplenty of them!) enters your house, you must submit or run away. If you should happen to kill or injure a highway-robber or burglar in the act, unless you can prove that it was accidental, you are liable to a sentence of thirteen years, eight months and twenty-one days in prison—and heaven pity those who must languish in one of those carcels, relics of medieval times!

While the tropics are rich in natural resources, a relatively large amount of capital is required to develop them, and I would warn Americans not to go to those regions without being assured of ample means for getting back to "God's own country." The tropics sorely need missionaries of Doctor Hollman's type—cleancut men of high ideals and moral courage. The moral status of many tropical countries is not as high as it is in North America, and there is no public sentiment to support the spineless. Many a young American, filled with dreams of conquest, has fallen quickly after setting forth among these natives; for, the American habit of "doing things" appears to apply also to evil as well as good, when he once gets started that way. Drink is not conducive to efficiency or longevity in the tropics; and drunkenness is not the only vice that flaunts itself there.

To the reader, I will say, unequivocally, if you possibly can, make a voyage to the tropics; the more extended, the better. You will find it one of the most interesting and delightful trips imaginable. Embark on one of the liners that touch at Central American ports. Upon landing, go up into the magnificent plateau region of Guatemala, Honduras or Costa Rica. You will find a strange, beautiful country, far more foreign than Europe, and a people polite and interesting. It is a bit of old Spain in tropical America.

But, take my advice, before you decide to make your home in any of those sunkist regions, wait until the novelty of this new—yet, old—region has worn off ere you burn your bridges; and, above all, remember that those lands are not an ideal place to raise a family in, if you want your children to be North Americans, like yourself. The health-risk is not as great as most North Americans imagine, at least not, if you take good care of yourself; still, the risk is much greater than in the United States. The wonderful strides that tropical medicine has made in the last twenty years has limited the efficiency of that "grim destroyer," fever, that hitherto has so jealously guarded one of the richest regions of the world against the invasion and conquest of the civilizing white man.

I have touched upon some of the most serious drawbacks of the tropics, as during an extended sojourn in Spanish-American countries they have impressed me. Yet, with all the heat and rain and discomforts and squalor, the tropics still call.

Then, go away, if you have to go,
Then, go away, if you will!
Again to return you always will yearn
While the lamp is burning still!
You've drunk the Chagres water
And the mango have eaten free,
And, strange tho' it seems, 'twill haunt your dreams,
This land of the coconut tree.

Chicago, Ill. N. S. Mayo.

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[Well! Now you have the other side. Since Doctor Mayo has lived in the tropics, he knows the conditions to be found there far better than does the editor. On the other hand, Doctor Hollman has spent thirty years of his life south of the Rio Grande and knows every turn of the road leading toward success or failure in that beautiful, bizarre, rich, and undeveloped land.

In our own opinion, there are men who are peculiarly adapted to an adventurous pioneer

existence in countries like Honduras. Such men will be happy far from the "comforts of civilization." But, for the majority, perhaps, these comforts have become necessities. The only way to tell surely to which class you belong is, to investigate for yourself. Do not stake your all on the experiment.

Our advice is, to visit Honduras—and then come back home and think it over. If two or three or more of our readers care to go down and see Doctor Hollman, it would be pleasant if they could arrange to go together, and we herewith offer our services to put such a group of men in touch with one another.

Doctor Hollman is now in the United States. He called on us only a few days ago. The impression we got was that of a cleancut man of unusual ability, who is anxious to be of service to others and to develop the wonderful land in which he lives. Of course, we have no interest (except that of friendship) in his proposed colony.—Ed.]

A SIMPLE REMEDY FOR LEG ULCER

It doesn't seem possible that one or two weeks of rest, and the daily morning application of gauze soaked with pure glycerin, held in place by an elastic bandage, would cure ulcer of the leg. But it does. Try it and be convinced. The action is really marvelous.

O. F. Welch.

Westport, Ind.

THE DIRECT OR INDIRECT CAUSES OF PELLAGRA

After considerable experience with pellagra, in my opinion we are absolutely in the dark in regard to its etiology, and I do not believe that any of the present-day theories can stand on their own merits.

My personal idea is, that the disease is due to an organism which exists somewhere in the gastrointestinal tract, causing putrefaction and fermentation of food, probably the fats and carbohydrates, resulting in a condition of extreme acidosis. To my mind lues plays a very important part, and I think the two conditions are closely allied. I am taking into consideration possible mistakes in diagnosis.

I had a case of pellagra in a married woman who traveled extensively, wined and dined at the best hotels in the country; who gave a luetic history and showed a xx Wassermann; she died promptly. Regulation of diet, no matter how well the latter be selected, will not cure all cases of pellagra, and I do not believe that improper diet will cause pellagra in selected cases.

Negroes are more prone to the disease than whites, but the mortality among them is slight as compared with that of the whites who have contracted pellagra.

I have positively cured a large percentage of my cases with salicylate of mercury given once a week and pushed to the point of tolerance. Martin of Hot Springs is giving salvarsan with a great deal of success. Sodium cacodylate is useful if given in large doses, 15 to 20 grains every other day for four treatments, this course to be repeated after ten days' rest. Very often I combine the two drugs, salicylate of mercury and cacodylate of sodium, giving the injection of mercury one day and following it with the cacodylate the next.

C. M. Beck.

Memphis, Tenn.

[Mercury and arsenic have both been found very serviceable in the treatment of pellagra, the arsenic in the form of salvarsan as well as of the cacodylate of sodium. According to our understanding, results tend to show, however, that smaller doses than those employed by Doctor Beck are effective. We are anxious to receive light on this subject. In the administration of mercury salicylate or of sodium cacodylate, the addition of novocain will be found of advantage in that it diminishes the pain of injection. In the general treatment of pellagra the value of intestinal antisepsis must not be overlooked, and we may remind you of the very satisfactory reports of Doctor Bowling published in Clinical Medicine concerning his use of intestinal antiseptics. Calcium sulphide is also unquestionably of great value. We greatly appreciate Dr. Beck's paper.—Ed.]

Pregnancy-toxemia forbids the use of chloroform, calomel, and mercurial antiseptics.—Williamson, *American Medicine.*

Chionanthus, given with chelidonin, bryonia, gelsemium, and veratrum, we have never known to fail to effect a permanent cure of gallstone attacks.—*Medical Summary,*

Hering found that cats and dogs may die at the beginning of chloroform-narcosis, and the more excited they are, the more sudden the death may be.—*Medical Standard.*

In the diseases of children, if fever arises, aconitine will serve better to control than any other drug. It is a safe agent, properly employed.—Servoss, *Medical Summary.*

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

(*Continued from October issue, page 881*)

As I have stated before, the struggle of the ages has been the emancipation of truth from authority. No thoughtful physician can fail to see the immense advantage of maintaining a liberal mind in the pursuit of his calling. It is of signal importance that the doctor not alone should welcome every advancement in medicine, but he should at all times be willing to put the broadest construction upon opinions conflicting with his own.

Every physician having the interest of his profession and of humanity at heart should admit candidly the value of any method, theory or practice that may promote the common object of alleviating human misery, taking the generous view of things, without which the pursuit of learning is but a jaundiced, melancholy affair.

Fortunate it is for him who has learned the charity and liberality that characterize all genuinely great or progressive men in every profession. His open heart and intellect are spared many a regret and, throughout his career, for him the sun of truth is shining everywhere.

If we find our pathways obscured by shadows, it is because we are walking away from the light, and not toward it. The sacred flame that glows upon the altar of truth illuminates and cheers only as we approach it.

If we wish to progress and influence humankind in the right direction, each of us should be modest in the presence of nature, fearless in the face of authority, unwearying in the pursuit of truth, and absolutely free to seek it in our own way.

Freedom's secret wilt thou know?
Counsel not with flesh and blood;
Loiter not for cloak or food;
Right thou feelest, rush to do.

The Theory of Drug-Therapy

THE theory of the treatment of disease-conditions with drugs rests upon (1) the nature of the demands which disease causes, (2) the evidence that drugs possess that which is demanded, and can produce it at call, and (3) the proof that whatever aid is given can be safely withdrawn when it has performed its service, in other words, that its temporary employment may impart a lasting benefit.

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Place.—The first demand for the use of drugs, made by disease concerns itself with the place, as to whether it is to be local or general. A sore throat or an inflamed larynx may be treated by local medication, whatever drug we use being aimed at the disease directly. But, when the affection is one of a deep-seated organ (when this is, for instance, an unstable nerve-center or a sluggish liver), then the remedy must be introduced into the circulation, through which it is distributed to every part of the body, appearing more or less freely in this or that part, according to the vascular ramifications, passing indifferently those cells that do not demand its aid, and eventually reaching its intended goal by the working of the law of selective cell action; so that, in fact, the effect is as truly localized, after it is absorbed, as it would be by direct local application.

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Time.—The second demand of the disease is that of time: whether the disease is acute and temporary, or chronic and indefinitely prolonged. The acute disorder, having a more or less determined course of its own, is characterized by a turning-point, after which the disease proper has come to an end and the practitioner has to deal only with its after-effects. But as at any moment during the progress of the disease excessive strain may result to the organism and thus endanger life, the chief therapeutic indication is, to gain time, prolonging our efforts until the natural

term of the disease is reached, so as to pass the critical point in safety.

This is to be done, principally, by means of stimulants; that is, agents calculated to liberate reserve energy at the proper time and in the proper place. Stimulant treatment, however, is to be administered with nice judgment, bearing in mind that stimulants do not create energy, but simply make available energy that otherwise would not be released. They should, therefore, be withheld as soon as the critical point has been passed, since their further action would be, to drain the reserve.

In chronic disorders, the rule for the employment of stimulant treatment is different, its advantage becoming more and more questionable as the disease lengthens its course beyond certain limits. Nevertheless, there no doubt are some chronic patients who would be the better for the habitual use of small doses of stimulants, properly regulated. In these cases, however, the purpose is not, to increase resistance, but to improve digestion, the enhanced assimilation more than repaying the slight loss of energy occasioned by the stimulant itself. Therefore, if ever the habitual use of stimulants is advisable, it will always be in relation to food; but they should never be taken in the intervals between meals, in an attempt to arouse dormant powers.

When the disease consists simply in a disturbed balance, due to the withdrawal of some factor that belongs to health, and which has not the effect of a direct attack upon the vital powers (e. g., myxedema, resulting from perverted activity of the thyroid gland), there is, of course, no demand for stimulation.

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Mode.—The third demand of disease is that of mode, in which the question is, How may drugs be fitted to meet the exigencies of the occasion? Thus, in fevers, for example, that are due to the entry of a new factor into the organism, how may the exhaustion which they produce be best combated? Sheer stimulant treatment manifestly ignores the possibility that the new invading element itself may be open to attack.

It is here that the value of antiseptics becomes apparent, by means of which we make war on the microbe of infection. If these do not suffice, there is a second mode of procedure, that of neutralizing, with antitoxin, the toxin through which the germ inflicts its injury, and of increasing the body's resistance by means of vaccines. And, lastly, we may treat the symptoms, the secondary causes, opposing a parched skin with a diaphoretic, a fever with a febrifuge, constipation with a purgative, renal insufficiency with a diuretic: and so on; availing ourselves of drugs which, influencing the organs in this way or that, are adapted to restore the functional balance of the latter.

But there are also bodily states in which, while the whole system appears to be lacking in vitality, no particular organ or function seems to be affected. In such cases, we give medicines whose stimulative effects fall upon the whole rather than upon any part. These are called tonics. In those cases where the morbid state of the entire body is in the nature of a perversion rather than a lack of tone, we have a class of drugs whose effect is, to change the metabolic processes of the organism. These drugs are known as alteratives.

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Physiological Balance.—In health, the parts of the human organism are so related to each other, so poised and interactive that they constitute a perfectly coordinated balanced whole. In the large sense, of course, it is impossible to affect any part of this organized body without affecting the whole, or reversely. Practically, however, disturbances do occur in which the influence upon the whole or upon the part, as the case may be, predominates to an extent that clinically classes them as either general or local diseases.

Nevertheless, we rarely meet either class of disease even in its clinical singleness, each usually being accompanied by some manifestations of the other, so that in the majority of cases it is necessary to combine local with general treatment. Local remedies often have no effect upon local affections until joined with a systemic remedy; so, also, general disorders frequently refuse to respond to purely general treatment, yielding only when some local affection has been treated and removed.

Wherever symptoms appear, however, whether general or local in character, they are evidence that the system has dropped from health to disease and that the physiological equilibrium is disturbed. As long as the term "health" is applicable to the body's condition, this balance is intact.

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Pathological Balance.—There is another kind of equilibrium of the organism, and this may be designated as the pathological balance; that is to say, the ability of the organism as a whole to adapt itself to the

presence of a morbid influence and to assume a new balance; which, if it is not the balance of health, is the best that can be done under the circumstances. There are innumerable examples of such a condition, varying from the slightest ailments to the lowest levels of invalidism; and these call for every cautious procedure in treatment, since it often is difficult, if not impossible, to measure the degree of instability of the part. Moreover, there usually is present some symptom which when appearing in a healthy body would at once be recognized as a morbid departure to be actively attacked, but which, remaining here as a symptom of long standing, must be regarded rather as a factor in the pathological balance and to be left severely alone.

The best example of the body's power of self-adjustment doubtlessly is furnished by the action of the circulatory system, as manifested in three special forms; namely: (1) anastomosis, (2) relation between blood pressure and pulse, and (3) compensating hypertrophy. The following ideas are elaborated more fully by Sainsbury in his book on "Principia Therapeutica."

Anastomosis.—The vascular tree furnishes a system of canalization that provides for more than the ordinary needs of the body, the anastomotic branches forming a potential circulatory path, which, remaining latent in ordinary conditions, is pressed into use when the chief channels of current are obstructed. The disturbance in a given capillary varies in inverse ratio to the activity of the anastomotic circulation—a fact which lends to the organism a reserve power in this direction that is almost inexhaustible. Nevertheless, each demand, slight or great, that is made upon this reserve, means a proportional weakening of it, thus placing the body at that much disadvantage.

Relation Between Blood Pressure and Pulse.—According to Foster, the rate of the heart-beat is in inverse ratio to the arterial pressure; and the significance of this law lies in the fact that through its operation there is maintained a steady rate of flow through all the vessels. For, as blood pressure rises in the arteries, it must be followed by a quicker passage of blood into the capillaries; so that, to store the balance, a decreased rate of pulsation becomes necessary. This maintenance of an even current means a steady expenditure of force throughout the body, and this tends to stability.

Compensatory Hypertrophy. — Every obstruction in a hollow muscle is answered by a hypertrophy of the muscle wherever there is good metabolism. Indeed, this law may be extended to include all muscular tissue, throughout the body; such issue being seen to hypertrophy at every call for increased activity. To be sure, there is a limit to this overgrowth; and the hypertrophied muscle, having already expended some of its store of energy, is not in the same position of advantage as a normal one. In the case of the cardiac muscle, it must be admitted that the most highly compensated heart throbs at a lower functional level than does the normal organ; and it is imperative that the physician bear in mind that this mechanism of self-adjustment, wonderful as it is, has its limits, beyond which it is fatal to stray. Yet, this does not invalidate the incontrovertible proof here furnished of the powers of adjustment possessed by the tissues, which is constantly endeavoring to preserve the body's balance against disease-disturbance.

This compensatory power is possessed and exercised also in other systems, whose functions, excretory and secretory, are part of the complex body-chemistry. The vicarious part played by the skin, the lungs, the intestines, and by other organs in disability of the kidneys is a familiar example of this complemental relationship.

Whenever the balance of health is disturbed, the organism endeavors to return to its habitual normal state. Moreover, no matter how great the diversion from the normal, the organs and tissues never lose utterly their characteristic activities—these are inherent and not to be destroyed.

In administering remedies, we do not put extra virtues into the body; we arouse, or attempt to arouse, that which already is there, although sleeping or injured. This is the reaction which, as I have said in my introduction, is characteristic of modern therapeutics. We can not create, we only can condition the manifestations of activity.

Therefore, we may assume as one of the first essentials of applied therapeutics that in the administration of any remedy we should at least be certain that it will do no harm. We may be able to modify the internal workings of the various organs, increasing or decreasing their action, as well as influence their interaction upon each other—that we can do, no more; and we cannot always do even this.

It has, for example, been found by experiment, that the heart would better be left to itself to meet an obstruction by undergoing hypertrophy, or, that the leukocytes may be trusted to deal with a microbic inva-

sion without our aid. It was this tendency of the body to resume, after disease or injury, its balance, that the ancients named the active remedial principle within the organism, the *vis medicatrix naturæ*—a term that well describes those reserve powers with which the tissues respond in cases of emergency. But, these powers are in excess of the ordinary vital tone, to be drawn upon only in times of great stress; every demand upon them being necessarily, met by a greater or less impairment of their vitality.

It may be remarked that this same *vis medicatrix naturæ* has formed a convenient foundation upon which to erect numerous so-called "systems of healing," which, without it, never could have a shadow of excuse for being. The healer claims the credit for the cure, and he claims it all the more confidently because of never even having heard of a *vis medicatrix naturæ*. The fact is, that this recuperative principle often is so powerful that a healer's efforts, fortunately have little effect upon the organism, favorable or otherwise.

The reputable physician openly avails himself to every possible extent of this natural tendency toward restoration. However, there are times when the working of this self-adjusting mechanism seems to have a contrary effect, even threatening life. The reaction of inflammation in laryngeal diseases, where the swelling of infiltration, which might be of no significance in other parts, assumes a critical aspect, multiplying the dangers instead of diminishing them; the dangerous increase of intramuscular tension, due to the firm fibrous casing of the eyeball—itself so essential to the ocular functions—maintaining, as it does, that organ's definite globular form, are familiar examples of this fact. It will be found that this unfavorable response on the part of an organ to body repair is in direct ratio to its degree of specialization, being, in fact, a clash between the specialized functions of the organ and its subservience to the general organism and when such specialization occurs within the sphere of a vital function there is danger to life.

Consequently, we are obliged to examine each case of disease carefully, in order to determine whether the natural trend is healthward (as it is in the majority of cases), or whether the reverse obtains, with conditions of such a nature that they must be interfered with at all cost; always the *vis medicatrix naturæ* is in proportion to the degree of discrepancy between specialization and general process, and whenever this attains a certain height the balance passes beyond natural recall and demands the intervention of therapeutics.

Another application of the negative-side treatment consists in the observance of a principle which endeavors to keep at a distance all disturbing elements, so that the recuperative powers may act unhampered; in other words, the principle of functional rest. This may be brought about by mechanical means, by chemical action or by application of our knowledge of physiology, which enables us to give rest to one part at the expense of another.

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Thus, the ends may be attained, either actively or passively; also, either directly and from the morbid part itself, as when by tying an artery, we destroy an aneurysm; or, indirectly, as in the employment of a purge and a diaphoretic in acute inflammation of the kidneys. Whatever the means, the intention is, to induce a condition of rest at the seat of disease, a "healthening" of the local vital energy and the storage of force and material out of which to rebuild both tissue and potential.

Following are a few practical examples, familiar to everyone, of the application of this principle:

The darkened room in all diseases of the eye.

Rest in bed in heart troubles.

The employment of milk in ulcerated intestines and in localized peritonitis.

The isolation of neurotic patients.

The use of splints in cases of broken bone.

The fixation of the chest in acute pleurisy.

The removal of all disturbing psychic elements in tetanus and other conditions.

It should, however, be borne in mind that the application of this principle of rest is capable of being overdone, since the laws of health demand that the body shall have breaks of activity as well as of passivity, and that too great a preponderance of rest will result in an abolishment of the power of function, instead of its restoration.

Where the function is an intermittent one, as in the process of alimentation, we may compromise the matter by extending the intervals between its activity, as, for example, the intervals between meals. Or, we may decrease the intervals and furnish less work for the function during the time of its activity; that is to say, in the case of digestion, for instance, we may give frequent small and easily digested meals.

[*To be continued.*]

Among the Books

KOLMER: "INFECTION AND IMMUNITY"

A Practical Textbook of Infection, Immunity, and Specific Therapy, with Special Reference to Immunologic Technic. By John A. Kolmer, M. D., Dr. Ph., Philadelphia: W. B. Saunders Company. 1915. Price, cloth, $6.00, net.

"The day is past when the physician and surgeon can relegate the things of immunity entirely to the laboratory. Diagnostic methods and reactions and the field of specific theraphy—vaccine, serum, and chemo—are subjects of such practical importance that it is obvious that the physician and the student of medicine can no longer be merely mildly interested onlookers. The physician who injects salvarsan, a serum or a vaccine, or who uses a diagnostic reaction, must be prepared to explain to his patient the nature of the therapy he employs and the significance of the reaction. This he can do only by equipping himself with the knowledge of the fundamental factors of immunity, or he will be forced into the position of a passive transmitter of ideas entirely beyond his own knowledge."

This paragraph from the author's preface presents a complete justification of the volume before us the purpose of which is, not only to present to practitioners and students of medicine a concise account of our present knowledge concerning the many problems of infection and immunity, but also to furnish all those engaged in laboratory work a guide to the various immunologic methods, as well as to outline for students of medicine and those interested in these branches a laboratory-course in experimental infection and immunity.

The literature on the subjects covered by the title of the book has assumed such immense proportions that it is not a cause for wonder that this treatise has attained to the unusual size of 867 pages of text. Rather, the astonishing part is that the author should have succeeded in condensing the relevant information in a single volume, instead of filling two or more.

Considering the presentday views concerning the bacterial etiology as well as treatment of a great variety of diseases, it is plain that the way in which infections are accomplished and the manner in which they are resisted by the organism must be studied carefully. For the physician who desires to avail himself of the advantages that are presented by the etiological treatment of bacterial diseases, it is not sufficient to know that a certain disease is caused by this or that microbe, but he must know how these microorganisms affect the organism, how the organism reacts to a given invasion, how the infectious disease may be recognized, and how it may be combated by the very means that have given rise to it. All these problems are discussed and explained in an unusually acceptable manner in Doctor Kolmer's treatise.

Constant consultation of this work for more than a year past has but increased the Reviewer's admiration and has aided him in arriving at a better understanding of the problems under consideration. It is true that, in the last instance, these problems cannot be presented as definitely determined facts. The student will realize and must keep in mind that the entire science of immunology still is based upon theory; but, if the theory enables us to arrive at a satisfactory explanation and to treat infectious diseases the better, then it has accomplished its purpose.

Doctor Kolmer's work explains to the physician the causes of infectious diseases, it aids him in recognizing and in treating them. Moreover, it affords instruction in laboratory-methods anent the infectious diseases, and consequently, is of service to physicians, to laboratory-technicians, and to students of immunology alike.

"THE NATIONAL FORMULARY"

The National Formulary, Fourth Edition. By authority of the American Pharmaceutical Association. Official from September 1, 1916. Printers and binders, The J. B. Lippincott Company, Philadelphia, 1916.

Despite its long and honorable history and useful career—having had its inception away back in 1856 and its full birth in the year 1888—the National Formulary, it is feared, is not as generally familiar to the members of the medical profession as it should be—to many of them it being but a name and

thought of as a mere collection of formulas for skin-lotions, shoe-blacking, and imitation proprietaries of interest only to druggists.

As a matter of fact, the "N. F." is as much a pharmacopeia as is the "U. S. P." itself; and, while a large percentage of CLINICAL MEDICINE subscribers are self-dispensers of ready-to-use active principles and other drugs and chemicals, nevertheless, but few practitioners can entirely forego prescribing galenical preparations, and, for this latter purpose, the doctor must know what is official at the time being and obtainable at either the pharmacy or the drug-jobbers.

Space limitation forbids entering into details; suffice to say, categorically, that now, more than ever, the National Formulary, albeit yclept a "formulary of unofficial preparations," is, in fact, a part of the official pharmacopeia. For, besides containing formulas for unusual galenicals prescribed by physicians here or there, it has become the repository of those preparations for one or other (often poor!) reason expunged from the "real" pharmacopeia. Furthermore, the National Formulary at present is as absolutely legal standard as is the United States Pharmacopeia itself. Which suggests a personal reflection - first saying that "Extra-Pharmacopeia" would seem to be the more appropriate title.

The writer of these comments was, for many years, actively connected with retail pharmacy and has been associated with pharmaceutical and medical journalism, and he here confesses that he has viewed with much misgivings the latterday evolution of the United States Pharmacopeia—the growing domination of the teaching theorists and the laboratory-scientists over the practicing pharmacists having wrought great detriment, in the opinion of many, to pharmacy as a gainful profession. The idealist has strangled the practicalist.

The office of a pharmacopeia (*pharmakon*—remedy; *poieein*—to prepare) is, to supply a standard to the apothecary for galenicals commonly prescribed by the physicians of his community. That, for the United States, means our country over. What object, then, is subserved in having one small, "official" collection and a second, big, "unofficial" one, but both legally binding?

The present revision of the Formulary has 354 pages devoted to simples and galenicals, all having precisely the same legal and medical status as has the text of the Pharmacopeia. Surely, common sense would seem to suggest putting them all alphabetically into one volume. The man behind the prescription-counter and he "behind" the prescription-tab will swear that there is altogether too much juggling done by the "professors," in the way of shifting from one "list" to the other, changing of the nomenclature, and expunging. No wonder busy practitioners are unfamiliar with these two authoritative books. As to the Formulary, numerous specially invented preparations will remain unused—as this writer has pointed out years ago in *The Western Druggist* and in converse—as long as the formulas are not accompanied by an explicit commentary regarding their nature and purpose and employment.

One cannot here consider the various features of this Formulary, except to say that, in its makeup, it now parallels the Pharmacopeia, alongside of which this book ought to have a place on every doctor's shelf. As for the formulas themselves, they have been worked out painstakingly by the best men in the profession and with the collaboration of the Council of Pharmacy and Chemistry, the United States Public Health Service, and of specialists.

The substitution of the term milliliter (mil, mils) for cubic centimeter (Cc.) already has been mentioned in these pages; in this only following the usage of the United States Bureau of Standards. A useful feature is the chapter on sterilization, which will serve as a practical guide to many a tyro. Another excellent idea is that sensible abbreviations of drug-names are presented for use by prescription writers.

The changes in titles and the additions and deletions of preparations are so numerous—unfortunately! one is inclined to exclaim—that this fact alone seems enough to impel every doctor to give this volume close attention. Thus, for instance, "fluidglycerates" constitute a newly added class; petrolata saponata are now called petroxolina, unguenta extensa are called mulla; and we now have salia effervescentia for the former name of pulveres effervescentes, pilulæ glycerylis nitratis for p. glonoini, elixir cinchonæ alkaloidorum for e. cinchonæ, and elixir terpini hydratis et diacetylmorphinæ for e. t. h. cum heroina.

MANN: "PRACTICAL PRESCRIBING"

Practical Prescribing and Treatment in the Diseases of Infants and Children. By D. M. MacDonald, M. D. London: Oxford Medical Publications. 1915. Price $1.50.

The prescriptions offered in this little volume throughout adhere to the British Pharmacopeia. They are largely galenical. The general suggestions and directions for treatment and management of the patients are very acceptable.

CHILD: "INDIVIDUALITY"

Individuality in Organisms. By Charles Manning Child. Chicago: The University of Chicago Press. 1915. Price $1.25.

In "Senescence and Rejuvenescence," a book published by the same author, and which was reviewed in these pages in October, 1915, he was concerned chiefly with the periodic change of the age-cycle in the organic individual as one aspect of the life-cycle.

The present book—"Individuality in Organisms"—deals primarily with the problem of the nature of the unity and order in the organism, the constancy of character and course of development, the maintenance of individuality in a changing environment, and the process of physiological isolation, disintegration, and integration, or individuation, in reproduction. The idea of individuality is not limited to that of the self-conscious, reasoning entity, but is treated in its physical or physiological meaning, down to the cell, which biologic entity, because of its behavior, constitutes an individual, as much as does each human being.

As has been said in the review of the older book, the importance of biology, for an understanding of the complicated processes of life, is being realized in an increasing degree, and the present effort by Professor Child in many respects is complementary to his earlier work.

ABRAMS: "DIAGNOSIS AND TREATMENT"

New Concepts in Diagnosis and Treatment. Physico-Clinical Medicine. The Practical Application of the Electronic Theory in the Interpretation and Treatment of Disease. With an Appendix on New Scientific Facts. By Albert Abrams, A. M., LL. D., M. D. San Francisco: Philopolis Press. 1916. Price $5.00.

Doctor Abrams is well known through his work on spondylotherapy, and his views concerning the causation, recognition, and treatment of disease—which, to say the least, are novel—have called forth the liveliest protests on the part of orthodox authorities. Fortunately, Doctor Abrams has the courage of his convictions, and his teachings too firmly are supported by practical observations and clinical results than that they could be cast aside merely because they are new. We confess to having approached the perusal of this book with rather a sinking heart and to having found it hard reading; but, then, that is due only to our own insufficient acquaintance with the author's teachings in general. Nevertheless, we are impressed with the force of his arguments and with his methods of investigation as well as his system of treatment. Physicians who are acquainted with spondylotherapy surely will want this book. Others cannot do better than to study both, this work and the earlier one, entitled "Spondylotherapy."

LEWIS: "DISORDERS OF THE HEART BEAT"

Clinical Disorders of the Heart Beat: A Handbook for Practitioners and Students. By Thomas Lewis, M. D., D. Sc., F. R. C. P., Third Edition. New York: Paul B. Hoeber. 1916. Price $2.00, net.

In contradistinction to other books on heart diseases, the author of this volume limits his discussion to certain symptoms that may manifest themselves in connection with the function of the heart and which are manifest in the physical examination. In the eight chapters of his book, he deals with sinus arrhythmia, heart-block, premature contractions, simple paroxysmal tachycardia, auricular flutter, auricular fibrillation, and alternation of the heart. In the discussion of his subjects, he has availed himself of the extensive and valuable acquirements of recent studies of the heart, and he presents these new facts and conclusions that are of chief service at the bedside, in a form in which they may prove of value to the general practitioner.

BROCKBANK: "HEART DISEASE"

The Diagnosis and Treatment of Heart Disease. Practical Points for Students and Practitioners. By. E. M. Brockbank, M. D. New York: Paul B. Hoeber. 1916. Price $1.25, net.

In this little volume, the author discusses the clinical recognition and diagnosis of various forms of heart affections. He gives instructions as to how to examine the heart, and what to look for. A short chapter on treatment is appended, in which a few remedies that influence the heart directly are discussed, while greater stress justly is laid upon rest and suitable diet.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6252.—"Persistent Temperature. Morning Diarrhea." P. H. P., Ohio, has a patient, a girl five years old, who has been sick three weeks. At first he thought she had typhoid fever, as for a few days she had a slight fever; but no bowel symptoms developed, although the fever remained. Her tongue is clean. The elevated temperature ranging between 100° and 101° F., persists. Still, the child does not seem very sick. No rales are discernible in the chest. The girl would get out of bed if she were permitted. "What," asks our correspondent, "may be the matter with her, and what should we do in those cases where there is increased temperature following an attack of bronchitis, and so on? It occurs to me that iodized calcium would be helpful when a mild infection and temperature persists."

Here is another question. A man, aged fifty-five, strong and of good habits, personal history negative so far as it relates to his present condition, is troubled with diarrhea. It seems that at about 5 o'clock in the morning he has a loose bowel movement. Why it occurs at this particular and unusual time I do not know. Of course, his bowels are too free at all times, but always they act at around 5:00 a. m. A number of physicians have treated him, but without success. I also have exhausted my skill. What is your opinion?

We regret that you did not send specimens of urine and a blood-smear from your little patient (case 1) with the persistently elevated temperature. As a rule, thorough elimination—by kidneys, skin, and intestine—and the administration of calcium sulphide, echinacoid, and quinine ferrocyanide as alternants, will remedy the condition, as described, in short order.

You do not give us a clear enough idea of the clinical conditions generally, so as to enable us to discuss the case more intelligently. In all acute respiratory disorders, calx iodata may be administered with advantage; but, then, you do not state definitely that such condition existed—you merely say, "I decided that she had some bronchial trouble." What about the tonsils? Is the child's appetite good and digestion satisfactory? Give us a little more light, doctor, and we probably shall be able to aid you more intelligently.

2. In all probability, we can make a definite diagnosis and outline effective treatment in the case of the man afflicted with the chronic diarrhea, if you will send a specimen of feces and urine (4 ounces from the 24-hour output, stating total quantity voided) to our pathologist, for examination.

One or two injections of emetine hydrochloride, followed by a course of berberine or hydrastine, and this by the prolonged use of the bulgarian bacillus, probably will meet the requirements. The wearing of a flannel belt will prove decidedly beneficial.

Discover just when and how this diarrhea started. Has the patient at any time used alcohol to any extent? What is his occupation? It might be well to examine the condition of the rectum. Ascertain the area of hepatic dulness. See, also, whether you can palpate the spleen.

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QUERY 6253.—"Infantile Paralysis?" L. D., Washington, asks what diagnosis, other than that of temporary paralysis produced by the toxins of a severe tonsillitis, could be made in the following case.

"In a family of four children, the eldest, five years of age, had tonsillitis, from which recovery was complete and rapid, then the one of three years had an attack, and here also recovery was complete, except that marked prostration continued for a week. Next, on June 29, a very severe attack of tonsillitis developed in the 2-year-old child. On June

30, it was unable to stand on its left leg, the knee giving and bending in under the right leg (which remained unaffected). On July 1, the child was extremely excited, and very sensitive to noise, and opisthotonos set in. July 2, it was less excited, but would not permit either leg to be manipulated. July 3, it was much better and continued to improve steadily for the next three days, but was nervous. July 7, the child crept a little, but we discovered that, while the left leg seemed fairly good, the whole right leg was paralyzed. Since then, however, improvement has been steady, until now the child walks a little.

"The child did not have diphtheria. Also, none of the 15 or 20 playmates of these children were taken sick."

As you can readily understand, doctor, it is absolutely impossible for us to venture a definite diagnosis from the meagre facts presented. For one thing, you do not state the mode of the onset of the attack, nor the range of temperature, nor do you give any information whatever relative to the nature of the infecting microorganisms. For, such pronounced systemic disturbances as here portrayed could hardly be expected, save in the most severe forms of streptococcic angina. Has there or is there now albuminuria? You say positively that there was no diphtheria; consequently, we assume that throat-cultures were made and the presence of the Klebs-Loeffler bacillus definitely excluded.

There is little question in our mind that—in the case of the 2-year-old child, at least—there was some meningeal involvement, possibly pneumococcic; but it must not be forgotten that just such a clinical picture as here shown may present itself in the milder forms of acute anterior poliomyelitis. If you will give us further light, doctor, we shall be able to discuss the matter more intelligently.

Considering all the facts, we should hesitate to exclude this last-named disease.

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Query 6254.—"Sugar Content of Bacillus Bulgaricus Bouillon." J. C., West Virginia, desires to be informed as to whether the culture-medium used for the above named preparation is that of Cohendy (that is, a mixture of milk-whey and cane-sugar), and, if so, whether it can safely be prescribed for diabetic patients.

Bacillus bulgaricus bouillon consists of a pure culture of the bacillus bulgaricus in a special bouillon containing whey, various salts, lactose, and dextrose. After this bouillon has been inoculated with the bacillus bulgaricus and properly incubated, each tube contains a small amount of sugar—approximately between 8-100 and 6-100 of a Gram. Tests of several tubes have shown from 3-100 to 4-100 of a Gram of glucose, and a slightly smaller amount of lactose. We do not believe that this amount of sugar could prove deleterious to a diabetic patient.

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Query 6255.—"Paralysis or Psychic Trauma?" J. T. F., Washington, presents a rather unusual and most interesting case, in the hope that we can offer a diagnosis. The patient has consulted many eminent specialists in New York City, Rochester, (Minn.), and elsewhere, but has not been benefited in any way. The man's father and mother are alive and well. Tuberculosis or other serious systemic taint is not a factor. Our correspondent's presentation follows in its essential parts.

"Man, aged 28 years, married. Weight, 165 pounds; height, 5 feet 10 inches. In good health. Received a blow in the region of the twelfth dorsal vertebra from a sledge-hammer weighing 8 pounds, which fell on him as he was stooping, a distance of 40 feet. Subsequently walked a mile without assistance. The next day, he was paralyzed from the waist down, and had no control of bladder or bowels. The skin had been slightly bruised, but was unbroken, at the site of injury. More than 35 x-ray pictures, made at different times, disclosed no lesion of the bones. After massage, exercises, electricity, and the like, he has recovered so far that he can get around on crutches, by swinging the legs from his hips. Loss of all sensation from the lower third of the thigh down to his toes still continues.

"The man learned to drive the automobile, by having a brace, extending from the waist to toes, fastened around waist. Then, one day, while on a trip with his wife and another lady friend, they were precipitated into a river. He struck out to swim after one of the women and succeeded in rescuing her after they had been carried a half mile downstream, carrying her in his arms up the bank. He walked several feet, then fell down. The next day, he walked unaided a distance of 10 feet, and the day after he walked 100 yards. Since then, he has been slowly improving, so that now he walks quite naturally, entirely unaided. This swimming feat was performed about eleven months after the original injury was sustained.

"The patient weighed 105 pounds in December last (1915), while at present, his weight is

145 pounds. His appearance seemingly is normal, muscular development is normal, appetite is good, also his digestion, bowels are regular and under good control. He is somewhat nervous, sleeps fairly well, although not going to sleep readily; eyes seem to be normal, reacting to light and distance; skin is normal, without trophic disturbances, and is of good color. In his right arm, from shoulder to the tips of his fingers, he has a tingling sensation, and it feels as if asleep. The mobility of this arm is perfect, so also are the senses of touch, pain, temperature, and so on. Chest and abdomen seem perfectly normal. The spine is exquisitely tender from coccyx to base of skull, and the lightest touch on it causes pain; this painful area separates at the base of the skull and branches off laterally and upward. The rest of his body is entirely free from pain. The locomotive power of the legs is good, but there is absolutely no sensation, in both, from the lower third of the thigh to his toes. When standing with feet together and eyes closed, he sways sideways and backward, but does not fall. All reflexes apparently are normal, the knee-jerk possibly being slightly exaggerated.

"The patient has to get up four or five times in the night, to urinate, but voids only a little. He also urinates many times during the day; however, the 24-hour output is normal, while chemical tests reveal nothing pathological. If he neglects to urinate just as soon as desire comes, the sphincters will refuse to hold. His sexual power practically is extinct; yet, erections are normal, although there is little sensation. About three or four times a week, a rush of blood comes up his throat, when he spits out about a small cupful, regardless of circumstances—time of day, position, occupation. There is neither pain, soreness nor any induration in the costal arch. The lungs are good, and he does not cough. This blood obviously is from his stomach, for it is mixed with food and has the appearance of new venous hemorrhage.

"Sometimes, when carrying things, his fingers will relax suddenly and let go; however, he can immediately pick the article up and hold on to it. His memory is getting bad; occasionally he loses a whole day this way and cannot remember a thing he has done during that time. On bending backward, he experiences, in left groin, a sensation like that of the "funnybone" being struck, then the pain becomes severe in small of back. This subsides as soon as the upright position is resumed. He can bend forward and nearly touch the floor with his fingers, but will fall forward before he can touch the floor. He feels little pain in thus bending forward.

"The patient has had various electrical and many other kinds of treatments. He now is having cold douching to the spine. Previously to this, he has had alternation of hot and cold to the spine. None of these seem to help his condition in the least."

The Query-Editor and his colleagues have very carefully considered the facts presented about this "paralytic who is not paralyzed." Somewhat similar cases have been reported in literature, and among them are several of socalled railroad-spine. There is, of course, nothing surprising in the fact that the patient in question walked home without assistance after the accident and that he was paralyzed the next day. Since the x-ray examination has shown that no bones were broken in the spinal column, symptoms of fracture (loss of function) could not then have been present. The paralysis was a pressure-paralysis, due to swelling or, more probably, to effusion in consequence of the concussion and several hours were required for this to form. The loss of all sensation, from the lower third of the thigh down to the toes, easily may have existed at first. But its persistence is contradicted by the ability of the patient to walk.

One paragraph of your letter requires a series of diagrams before a mere doctor can understand it. He must imagine a man wearing a brace extending from waist to toes. This was applied, presumably, in order to prevent the swinging of the man's legs from the hips while he walked on crutches; and it must be assumed that this brace was stiff, for nothing is said about its being jointed at the knees. The present writer imagines, however, that it must have been so jointed. If that is correct, how, in the name of all that is reasonable, could this poor paralyzed person strike out and swim after one of the two ladies who, with him, had been precipitated into the river. This hardly is conceivable, since we must assume that all of a sudden the paralysis yielded and that he was able to kick loose from the brace—like the individuals at a spiritualistic seance, who free themselves, in the dark, of all the cords and things with which they are tied.

Anyway, the point here is, that the man could swim. Then he carried a heavy load up the bank and walked several feet beyond. What next? All of a sudden he remembers that he is paralyzed—and he drops to the ground. But, the next day, the memory of that swim and the walking-feat arouses

his ambition: he walks, unaided, about ten feet. Still, the underlying anxiety-inhibition prevents; the mental impression of the paralysis is stronger than that of the swimming and walking. In consequence, further walking is inhibited. The same explanation may apply to his experience the following day, when he walked a hundred yards. After this, the mental impression of the actual walking accomplished became stronger day by day, and in the same degree it overpowered the anxiety-inhibition of the paralysis-idea. Consequently, in the same degree his ability of locomotion gradually was restored.

We take it that the "tingling sensation" in the right arm, of which the patient complains, is a remnant of the paralysis-idea. We note that motion, with sense of touch, of pain, also of temperature, are perfect; hence, we must believe that the tingling is a purely mental manifestation.

Now comes one great contradiction. "Motor power of legs good, but absolutely no sensation from the lower third of the thigh to his toes in either foot." That is an absolute impossibility. If there were no sensation in the feet and legs, there could be no motor power.

The slight hemoptysis appears to the present writer to be coincidental, moreover, the blood may just as well originate in nose or pharynx, being swallowed, then raised. This point hardly needs discussion.

The fact that this man can carry things, but that occasionally his fingers relax suddenly and drop the objects again is explained by the persistence of the paralysis-idea. It is a phase of anxiety-inhibition, which becomes active whenever the man happens to remember that he was paralyzed. Also, there is present, subconsciously, the question as to whether he is still paralyzed or not, and the unconsciously felt inability to overcome his fear of lasting injury. (This may not be perfectly clear, as often attempts to explain psychic processes are not.)

The sensation in the groin and the pain in the small of the back, or upon bending backward, also a pain on bending laterally, suggest a local injury in which one of the intervertebral cartilages may be dislocated and impinging upon the root of a nerve. One can readily imagine such a thing to happen by way of reaction to the blow such as the man experienced at first. The tendency was, of course, to straighten up suddenly from the stooping position. This straightening up possibly was jerky and may have thrown the different portions of the spinal column out of alinement, thus permitting one or other of the cartilages to slip either forward or backward.

Naturally, it would be very difficult to determine this fact in the x-ray pictures. It does not seem to be an unreasonable explanation, though.

The diagnosis of this case is, that possibly there is present a degree of effusion that still persists although slowly growing less; then the impingement of a displaced cartilage. The major diagnosis is that of "psychic" trauma.

The treatment is local as well as mental, the latter consisting partly in reeducation and partly in suggestion (*not* hypnotic).

For the local treatment, it might be well to apply a series of small fly-blisters along the entire course of the spinal column, starting at the occiput. (A portion of the hair would have to be shaved off, of course.) We would advise this, because of the painful sensation along the spine, which bifurcates in the region of the occiput and passes to either side. Of course, the blisters must be treated in the ordinary manner.

Before the reeducation can begin, the patient must be shown the inconsistency of the history as remembered. You must explain to him what is meant by anxiety-inhibition, and also how the paralysis-idea can interfere periodically with his free motion You must show him that the paralysis can no longer, possibly, have existed when he swam in the river and walked up the bank. He must know also that motion is incompatible with absence of sensation. Since he has motion, the consciousness of sensation may be dormant, but the sensation itself certainly is present.

You should, at the sam time, explain to this man why and how a psychic trauma may arise. Tell him that this is not malingering and that there is no pretense in it. Prove to the man that he requires readjustment of his mental attitude in regard to the extent of injury and its consequences. Unless the patient learns to reason it out fully, it will be impossible to begin with his reeducation; but, we believe that he will recover the full command of his locomotor apparatus, unless that suggested displaced cartilage really is a factor.

We shall be pleased to hear of any further developments in this case, as it interests us greatly.

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QUERY 6256.—"Dementia Præcox." W. T., California, asked us to venture a diagnosis

of the case of a young woman, and outline treatment; the patient's history being as follows: "At the age of about twelve years, she had a 'nervous chill,' following an attack of grip. She 'shook all over,' but got better after being warmed up. After that, she had blue and gloomy spells. She thought that she was going to die, imagined that she had swallowed glass, that something was wrong with her heart, or that all the streaks of light were Jesus coming with the angels to take her away. This was three years ago. She always is worse in the winter. Now she labors under the belief that she killed a certain man who was murdered when she was yet a young child, and when anyone dies, she thinks that in some mysterious way she was the cause of it. She is quieted by being assured that her belief is morbid. That word suits her. When she thinks all kinds of things and is told that they are 'morbid' imaginings, she seems not to worry so much.

"Then, also, she will ask the same question over and over again and tries to tangle her mother in every way possible. She talks to no one else on the subjects named. She goes to parties and is kept with other girls as much as possible for she does not seem to think of things while with them.

"She is, and has been, receiving a nerve tonic. Dancing and all kinds of outdoor sports have been advised, and that she be kept in the open air as much as possible. She was a very bright child until this trouble came on. Strangers would not know that there is anything the matter. She walks stooped and is pale, but is not very thin. She eats and sleeps better since taking the tonic. She always has been terribly constipated."

Our reply was as follows: Frankly, doctor, it is absolutely impossible for us to venture in this case a rational diagnosis, much less therapeutic suggestions, without having a much clearer idea of the woman's general physical condition. You must bear in mind, though, that this girl was one of the brightest members of the family until about her twelfth year. It is absolutely essential that you discover what happened at that particular time. Then, also, a very thorough examination of the pelvic viscera should be made. The whole train of psychic symptoms might disappear by performing clitoridectomy and dilating the vaginal and anal sphincters. The cervix uteri also should be subjected to an examination, and, if a pinhole os exists, it should receive attention.

Furthermore, you have not told us at what age she first menstruated, nor anything about her habits. Look into this matter carefully.

Autotoxemia, necessarily the result of constipation, must be corrected, of course. You must bear in mind, however, that in these cases internal medication is absolutely useless unless the basal pathological condition is ascertained and, if possible, corrected. It is quite evident that, serious as the patient's mental condition is, it is not as yet to be regarded as irremediable. If you will give us further clinical facts, we shall be pleased to comment further. To this, we received the following reply, giving further information:

"Last winter the young woman went coasting and in some way struck the bottom of her spine. The girls brought her home, because it hurt her to walk. She complained of it hurting her for about six months. No other known accident occurred to her, except a fall, when she was about two years old, when she climbed up on a high chair on a porch and fell from it down 5 steps on to a brick walk, striking her forehead. There is a place in the middle of her forehead where the skin seems to have grown fast. It looks like a dimple.

With the exception of being constipated, the girl has been unusually well, aside of this nervous trouble. She would not go to sleep on account of her imaginings, and sometimes would sit up in bed and think she saw a hole in the wall. She was always afraid at night and wanted to be held tight. She menstruated in the beginning of her fourteenth year. The flow is scant and lasts about four days. There is no pain. She has not been irregular till lately. Now the periods are further apart, five weeks the last time, and five have passed this time and she is not sick yet. She is always worse just before her catamenia. When this trouble first came on, she would sleep all curled up and hold her hands turned in, in an awkward position. She does not do that any more.

"Her people try as much as possible to keep her from hearing about the death or injury of anyone, because she thinks that, in some way, she is responsible. Her mother asked her to crack walnuts with a hammer, and she would not do it, as she was afraid something might make her hit the mother with it. She continues to think that she has been associated with every murder she hears about. She thinks she might be the cause of her mother's death in some mysterious way, by some backward step of hers or by thinking things in different ways. When off the subject of murder, she is like the rest of us; on it,

she loses all and gets tangled. Once in a while she will say, 'I wish I could get sick and die. There is nothing in life for me when I cannot quit thinking of these terrible things. But, are they all morbid?' She is told, over and over again, that they are, and for the time she believes; then she becomes afraid again that her belief is real.

"The girl, now seventeen, weighs about 110 pounds and is in good physical condition. Her complexion is sallow; has no color. Sunlight and air seem to help her. She would be of a good figure if she would straighten up, but her spine seems stiff and she walks like a grandmother, old and bent. She wants, however, to look better than anyone living. Once in a while she has a severe headache. Likes to read when the books are not exciting. She dances a little; sings a little; plays a little; works a little; visits with the girls and runs around after things at the stores. Sometimes she will forget what she was sent for and must call up to ask her mother. That is because she is 'thinking things,' as she calls it."

With these further facts before us, we think there is little doubt that this girl is a victim of pronounced dementia præcox. As you will appreciate, phases manifested by this trouble are so varied and the treatment called for depends so greatly upon the individual case that it is almost impossible to outline a treatment for this particular girl, even if it were practicable for such treatment to be carried out at home, which we seriously doubt. Our strong recommendation is that this patient be sent to a good institution the express object of which is, to care for just such patients until cured.

We understand fully the seriousness of the advice we are giving, but we understand also the gravity of the situation which we believe warrants this advice. Indeed, we will go a little further and say that, in our opinion, the family runs a risk every day the girl is at large, since there is no telling an hour in advance what these dementia-patients will do. It is for you to determine how much of this is to be imparted to the family; but, we repeat, it is our earnest advice that this young patient be subjected, with the least possible delay, to control and treatment in a proper institution.

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Query 6257.—"Hypodermic Medication." H. A., Illinois, asks: "Is it advisable in, say, an acute attack of influenza, where the patient has pain all over, some fever, and is restless and nervous, to give a hypodermic injection? Suppose the patient lives miles away and there are bad roads to traverse, would you advise such procedure? Remember, I said, during fever. What effect would pilocarpine, when injected hypodermically, have in high fever? Would it be prudent to use it?"

Whenever immediate, quick action of any remedy is desired, its hypodermic administration not only is permissible, but it is advisable; in fact, very often we may thus secure the desired therapeutic effects of potent remedies, while preventing gastric irritation or other undesirable conditions. Of late, intravenous medication has been ardently advocated for more general application, and the hypodermic syringe is now being used more extensively than has been the case. Only a few years ago, the moment a doctor produced his syringe, the patient immediately jumped at the conclusion that he was receiving morphine; which, indeed, was the chief use to which it was put, except, also, for administering rapidly acting cardiac stimulants in emergencies. Today, hypodermic medication is employed on a much wider scope, and it would be perfectly permissible to give many drugs hypodermically, just as well as by mouth, during the stage of hyperpyrexia.

The mere fact that a patient lives a long distance away in no way militates against giving any potent drug hypodermically, since its action becomes apparent within a very few minutes, as a rule, and the physician then can maintain the effect by providing for the frequent administration of small doses of the same drug by mouth.

We should not hesitate to give pilocarpine hypodermically where the action of this drug is distinctly indicated, even though the temperature were high or the patient had pneumonia. In the latter case, however, pilocarpine should be used with extreme care. Bear in mind, always, that pilocarpine nitrate not only acts on the sudoriparous glands, thus inducing free perspiration, but also very materially increases the secretions of saliva and urine and thus usefully acts as a derivative in most acute congestions, particularly pulmonary, renal, and cerebral. It is especially useful in dry, congestive coughs and as a detergent in pleurisy. In this connection, we call attention to that extremely useful little manual by Doctor Webb, entitled "Hypodermic Medication."

As substitutes for cocaine, I mostly rely on gelsemium and hyoscyamus.—Alter, *Medical Summary.*

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Carrel's Work with Antiseptics

ONE of the most interesting features of the great Clinical Congress of Surgeons of North America, held in Philadelphia toward the last of October, was the moving-picture "show" given late every afternoon in the auditorium of the Bellevue-Stratford Hotel. The first of these pictures, and the one which excited probably more interest than any other, showed Dr. Alexis Carrel and his associates in Hospital 21, at Compiegne, France, and presented "closeup" views of some of his brilliant surgical exploits. These views were explained by Dr. Fred H. Albee, of New York City, who also took occasion to illustrate Doctor Carrel's methods of treating infected wounds.

As has already been explained in these columns, the antiseptic most largely employed by Carrel is the carefully standardized neutral solution of the hypochlorites, as devised by Dr. H. D. Dakin. Since this solution was found to present certain disadvantages, further researches by Dakin resulted in the introduction, later, of another, altogether new antiseptic, similar in its action to the hypochlorite mixture, but presenting very decided advantages over that solution. This antiseptic, a synthetic derivative of toluol and chemically known as paratoluene-sodium-sulphochloramide, has been introduced in this country under the trade-name of chlorazene. It may be of interest to the readers of CLINICAL MEDICINE to learn that its solution is being used extensively in Doctor Carrel's clinics in the same way as the hypochlorite solution.

Doctor Carrel has developed a novel way of employing his antiseptic solution in the treatment of wounds. In order that the germicidal agent may be able to attack promptly and surely and thus destroy the bacteria lodged in the wound, he considers it essential that the entire raw area be constantly bathed by the antiseptic used. This end he accomplishes by keeping the wound moistened by means of a series of minute rubber tubes radiating from a larger tube that is fed from a glass reservoir. The terminal tubelets are about the size of a small soft-rubber catheter, and they are fenestrated with minute side openings through which the solution is discharged into the wound. However, Carrel does not practice continuous irrigation, but allows just enough of the fluid to escape from time to time to keep moist the loose gauze dressing packed into the wound.

The effect of the antiseptic is measured by taking frequent smears from the wound

surface and counting the number of bacteria in the microscopical field; and not until their number has been reduced to a point so low that the possibility of reinfection (as determined by experience) can be excluded, is the wound allowed to close. Under this method of treatment, we are told, the rapidity of healing of the terrible tearing, crushing, deepseated, infected wounds produced by shrapnel, shells, and high explosives has been marvelous, indeed, and apparently the management of these lesions has been completely revolutionized.

In connection with this intermittent moistening, after the bacteria have disappeared Carrel employs antiseptic dressings or compresses to the healing wound, so as to keep it in an aseptic condition. For this purpose, we are informed, he uses a weak solution (as low as 0.2 percent) of paratoluene-sodium-sulphochloramide [chlorazene], likewise a cream containing the same antiseptic in a paste made with sodium stearate. It has been suggested that such a paste, because of its freedom from fat and the fact that it is water-soluble, would make an ideal application for the treatment of many common superficial wounds.

No doubt many of the readers of CLINICAL MEDICINE have seen the very interesting syndicated articles contributed to American newspapers by Sterling Heilig, describing the experiments conducted by Carrel, Hartmann, and DuNouy relative to the measurement of the rapidity of the healing of wounds. These experiments are described in detail in the November 1 number of *The Journal of Experimental Medicine*. DuNouy established the fact that there subsists a definite relation between the age of the patient, the area of the wound, and the rapidity of cicatrization. This relationship, as eventually worked out, can be expressed in a simple algebraic formula, and this, in the paper in question, is shown in carefully prepared curves. The practical value of this discovery is explained by Heilig as follows:

"For each wounded man, they draw the ideal curve of his recovery in red ink. It is done in advance after five, six or eight days' irrigation. So, they can predict two months in advance the exact day when his wound should heal with a dry scar. Then, day by day, beside the ideal curve, they line the curve of actual progress in black ink. The two curves ought to coincide. If the black curve of fact begins to get away from the red curve of biology, they know there is urely something wrong with the treatment.

"They hunt for the wrong thing. It may be a bad compress, a bad position in the bed, clothing too tight, improper nutrition, or even, possibly, a bit of infected clothing, almost microscopical, hidden in some deep fold of the wound. It must be something—and they always find it.

"Then, again, the black curve of fact catches up and runs beside the rosy curve of theory, like two bully, bounding, trotting horses hitched together to a buggy with pneumatic tires."

The plain meaning of all this is, that under this improved antiseptic method of treating wounds, checked up by DuNouy's algebraic formula and his curves, it is now possible for the surgeon to predict with almost absolute accuracy the date upon which a wound may be healed.

In working out this problem, Carrel conducted many experiments upon animals, while observations were also made on the healing wounds of soldiers. He describes as follows the method employed to sterilize these wounds:

"During the period of observation, the wounds were kept, by means of antiseptic and aseptic dressings, in as constant a bacteriological condition as possible. Every day films of the secretions, taken in different parts of the wounds, were examined. When the films contained bacteria, the wound and the surrounding skin were cleaned with a cotton sponge and neutral sodium oleate. Then, for a few hours, 0.5 percent of Dakin's hypochlorite or 1-percent paratoluene-sodium-sulphochloramide [in other words, chlorazene] was instilled into the wound. As soon as the bacteria had disappeared, aseptic dressings or compresses moistened with 0.2-percent paratoluene-sodium-sulphochloramide were applied. The wound remained aseptic for several days. If bacteria appeared again on the granulating surface, chemical sterilization was used."

This brings us back again to the problem of the antiseptic; for, after all, it is the introduction of an efficient antiseptic of low toxicity and practically no caustic action which has made this method of wound treatment possible.

One point that we wish to make is this, that the infection-producing bacteria and the bacteria-destroying antiseptic combine with one another in very definite proportions, and it should be possible to write this fact into another algebraic formula.

The problem, therefore, as Carrel was quick to grasp, is, to supply the infected

wound with a quantity of the germicidal agent in solution sufficient at all times to combine with and kill or to render innocuous any micro-organisms that may be present in it. Such an antiseptic, if it is to fulfil the ideal indications, should not injure the tissues and must be of such low toxicity that it may be employed in sufficient quantity or in sufficient concentration to combine with and destroy all the bacteria present at any time and thus keep the wound sterile.

The hypochlorite solution was a great step in advance. It is today, undoubtedly, one of the best antiseptics ever introduced, but the paratoluene - sodium - sulphochloramide goes a step farther. The hypochlorite cannot be used in a solution stronger than 0.5 percent. If the strength employed exceeds this even to the degree of 0.1 percent, wound irritation supervenes. Dakin's new antiseptic, on the contrary, while of equal germicidal power, may be used, without producing wound irritation, in 1-percent, 2-percent, or even in 4-percent solution, in other words, from two to eight times as strong as the hypochlorite; and it has the added advantage of being a definite chemical, being ready for immediate use, practically odorless, and stable.

The only objection to this new antiseptic is its costliness; but, considering the fact that it is much safer as well as all its other advantages, we believe that this will weigh but lightly with the medical profession of this country.

A few years ago, we were told that the day of antiseptics had gone by forever, that, hereafter asepsis was to be the method of treatment; and the studies of Sir Almroth Wright and the experience of a large number of surgeons seemed to give justification of that belief. But, the Great War, with its thousands and thousands of injured, bringing back in a degree which mankind never had experienced, and never expected to experience, the great problem of dealing with infected wounds, has again modified the methods of surgical practice and today is leading us straight back to our faith in Listerism.

It may be that the marvelous achievements of Carrel are swinging the pendulum too far in the opposite direction. As to that, only time can tell, but there is not the slightest doubt that, through the methods which he has introduced, Carrel is today saving thousands of limbs and thousands of lives. As to the truth of this statement, we have the testimony of a number of eminent American surgeons who have seen Carrel work and know what he is doing.

PUSH THE KERN-DOREMUS BILL

In the October number of CLINICAL MEDICINE (page 809), we called attention to the introduction by Kern, in the United States Senate, and by Doremus, in the House of Representatives, of a bill designed to legalize the sending of poisons, particularly medicinal substances, through the mails.

It is not necessary to tell our readers again what a handicap has been placed upon the medical profession by the present construction of the law. As now interpreted, it is illegal to send through the mails such common remedies as aconitine, morphine, strychnine, arsenic, nux vomica, digitalin, not to name the host of other medicinal substances in everyday use, irrespective of what the form, whether in tablets, granules, liquids or powder. The only recognized method of transmission of these substances to the consumer is by express or freight. The physician who happens to live on a rural free-delivery route, ten, twenty, fifty or more miles from a railroad station is, under this ruling, practically prohibited from receiving the medicinal tools of his trade.

This situation is wrong and should be remedied. We suggest that every physician who reads these lines write to his congressmen and senators and urge them to use their utmost efforts in pushing through this bill. Now that the election is over, there is no reason why our servants in congress should not give careful consideration to the interests of the medical profession and the people whom they serve.

Circumstances are the rulers of the weak—they are the instruments of the wise.—Samuel Lover.

THE STATE ANTINARCOTIC LAWS

Every physician should read the November number of *The Medical World*. As usual, it is full of excellent material, but of special importance in this issue is the review of the state antinarcotic laws, presented in the first editorial. During 1916 and 1917, forty-one state and three territorial legislatures will be in session. In a large number of these, new antinarcotic bills will be introduced, and it is the duty of the medical profession to see to it that before any of these bills become law they have the careful scrutiny of students

of this topic and are made to accord with the requirements of medical practice. The highest possible degree of freedom for the practitioner should be provided for and no legislation should be permitted that will interfere with the legitimate and proper exercise of his rights as a practitioner of medicine.

Antinarcotic legislation is a necessity, and the laws already enacted have uncovered great evils. However, in the execution of these laws defects have appeared that, by all means, must be remedied. The physician should be on the right side of this movement. He should encourage the passage of the right kind of bills, yielding on the minor matters, when necessary, to insure best results for the people, and particularly for the many thousands of addicts throughout the country.

The feature of these laws especially calling for revision are those in force in the various states dealing with the care of these unfortunates. One sad result of current legislation has been the depriving of these victims of narcotic supplies, without any provision for their adequate and humane cure or care. This feature of the legislation deserves more than passing consideration by the profession. It would be a good thing if a conference of medical experts could be held for the framing of model legislation to deal with this phase, and in this connection we suggest that *The Journal of the American Medical Association* should take the lead, cooperating as far as possible with the National Drug Trades Conference.

Every physician should show in a practical way—meaning by his subscription—his appreciation of the efforts of Doctor Taylor, of *The Medical World*, to throw light upon this important topic.

Everything worth while in life is simple and made of very humble substance. To view life as it is, to see what is actually happening, one needs just a pair of good eyes, and in order to understand what others say, the things that they really mean to say, one needs knowledge of the language and a pair of good ears.

CHICAGO THE WORLD'S GREAT MEDICAL CENTER

There is something electrifying, at least to a citizen of Chicago, in the announcement made in the newspapers a few days ago, that Chicago is to take the place of Berlin, Vienna and the other great medical centers of the Old World as the Mecca toward which many a physician and surgeon will turn his eyes and his footsteps when the shekels jingling merrily in his trouser-pockets suggest the possibility of a postgraduate course. Many of us have known that there was a plan on foot for the larger development of the medical resources of this city and for the improvement of medical instruction, but we did not appreciate how great this actually was until the newspapers announced that the Great Plan was almost an accomplished fact.

And this is the plan: The General Education Board and the Rockefeller Foundation have each pledged $1,000,000 for medical education in Chicago, this donation made contingent upon the raising of $3,300,000 by the people of this city. Of this sum, $1,200,000 has already been subscribed, and the public has been assured that there is every prospect that the rest will be raised before spring. In addition to the $5,300,000 provided in this way, the new institution is to have turned over to it the financial resources of Rush Medical College, the Presbyterian Hospital, and a group of other institutions, representing a total investment said to be far in excess of $3,000,000. The University of Chicago provides a building-site along the Midway, on the South Side, for the new undergraduate building, said to be worth $500,000. Consequently, the new institution will begin its career with property representing a value of from $8,000,000 to $10,000,000.

This great endowment- and building-fund is to be distributed as follows: Rush Medical College and the undergraduate medical instruction of the University of Chicago are to be combined in one great institution, to be located on the South Side. The name of this institution will, presumably, remain Rush Medical College, and it will become a full department of the University of Chicago.

The old Rush Medical College building on the West Side is to be torn down and replaced by a great research-laboratory. The rich clinical facilities of the Presbyterian Hospital, Cook County Hospital, and the other hospitals belonging to this group are to be utilized for a great postgraduate school at this center, where instruction will be given to physicians in connection with the research-work provided, and which will be carried on in the same locality.

Thus it will be seen that the new institution is to comprise three sections: (1) a great undergraduate school, (2) a great postgraduate school, and (3) a great research laboratory.

The institution as a whole is to be under the direction of Dr. Frank Billings, present dean of Rush Medical College and one of the fore-

most leaders of the modern school of medical thought in this country. All the instructors in this great institution are to be full-time men, that is to say, all are to receive ample salaries and, hence, are to devote their entire time to the work of the institution, and to abstain from all private practice.

This is a colossal plan—truly Chicagoesque. The motto of this city is, "I Will," and we believe it will be typified in the achievements of this institution, which promises new victories and new ideals for the medical profession of this country, a medical profession of the newer, nobler, and more highly trained type.

May this glorious dream soon become a more glorious reality.

Resolve is what makes a man manliest: not puny resolve, not crude determination, not errant purpose, but that strong and indefatigable will, which treads down difficulties and danger, as a boy treads down the heaving frost-lands of winter; which kindles his eye and brain with a proud pulsebeat toward the unattainable. Will makes men giants. It made Napoleon an emperor of kings, Bacon a fathomer of nature, Byron a tutor of passion, and the martyrs, masters of Death.

—Ik Marvel.

THE STANDING OF THE ALKALOIDS

Friends of CLINICAL MEDICINE write us: "Why is it that you have so little to say about the alkaloids? Have they failed to meet the expectations based upon them? Or have you found something better in the newer additions to our therapeutic armamentarium?"

Neither the one nor the other. CLINICAL MEDICINE nowadays is printing less about the alkaloids simply because so much that is worth saying has been said.

The alkaloids have been extracted in chemical purity and presented in pharmaceutic perfection. They have been tested experimentally with scientific precision, and the rules for their application have been laid down with a certainty as for no other remedies, excepting the chemically pure mineral salts. The influence of the alkaloids over the physiologic functions is definitely known as in the case of no other drugs. Their proper employment in disease has been deduced from the data here mentioned, and has been confirmed by their clinical application all over the world by the best clinicians our profession can boast.

All this mass of information has been brought together, sorted, sifted, digested, and published in the two great volumes on active-principle therapeutics and practice. These works represent the labors of twenty years, during which the authors consulted all the textbooks on therapeutics in the English, French, German, Italian, Spanish, Portuguese, Russian, and several other tongues, besides great numbers of pamphlets and periodicals. The net result is, the two big volumes mentioned. They are veritable mines in which lies many a gem awaiting the fortunate discoverer. They are condensed cyclopedias of that most essential knowledge of how to treat the sick.

The work has been carried down to the point where the clinician can take and apply it to his needs. Hundreds or even thousands of suggestions are there given, any one of which may be developed into as brilliant a triumph as that won by Rogers with the alkaloid of ipecacuanha. The writer and compiler has done his share—it will require the entire practicing medical profession to carry on the work to its completion.

This is why of late we are saying so little about the alkaloids. We have said our say. The next step is, not saying, but doing. It is up to you.

Wait, oh, wait, till coal is cheap;
Wait till love is true;
Till promises are made to keep
And notes are paid when due;
Wait till the sun grows leaden cold;
Wait till your ship comes in;
Wait until unwed maids grow old,
And virtue conquers sin;
Wait till life is a happy dream,
And men are deceivers never;
Wait till things are what they seem—
Wait—and you'll wait forever.

—Chicago News.

"THE DEFECTIVE," OR SYPHILIS AND HEREDITY

The other night I saw Dr. Harry W. Moore's play "The Defective," as it was rendered in the tabloid version at the Wilson Theater (Chicago). Of course, the plot hinges upon the problem that stirred up such a storm in its airing in the Haiselden affair about a year ago, and it also deals with the dysgenic influence of syphilis. The plot, in brief, is this: The curtain rises upon Doctor Hawtrey in his study, who is heard to call up the suitor of his daughter, evidently a young man, and to tell him that a Wassermann test which had just been completed gave a positive result and that he, Kendall, never would be permitted to marry the Doctor's daughter or any other girl. Soon afterward, the daughter comes into

the study to visit with her father amd is told, without explanation, that she and Kendall must not marry.

Left alone, the Doctor is just about to sit down in front of the fire, when a ragged hunchback sneaks into the room and, with gun leveled at him, demands that he be given "dope." After some parley, the Doctor gives the degenerate a hypodermic injection. When the drug begins to exert its effect, the victim tells his story of how his parents, both diseased, conceived him in iniquity and left him at the untender mercies of the world, a little hunchback, distorted from infancy; how he was raised in an asylum from which eventually he ran away; how he knew nothing else but the ways of the underworld, nothing but crime and filth and dope; how despite his unlovely appearance he became friendly with a girl, how his heart failed him when it was too late and how he ran away. He curses his parents, he curses the world and himself.

The telephone rings, and the Doctor is told that a certain young woman had just given birth, at the hospital, to an infant that was deformed, and which could live only if he would perform a certain operation. The hunchback hearing the name of the infant's mother knows that he is its father and that his offspring is defective like himself. The Doctor informs the hospital-physician that he refuses to operate and to give the baby a chance for life. His unbidden guest thanks him and, as he leaves the office, shoots himself.

The lesson which it is intended to convey and to drive home in this little play, of course is a very important one, one that needs to be shouted from the housetops and to be dinned into the ears of people, young and old —but especially the young—until there no longer can be offered the excuse that they do not know. But, while the lesson is true and needs must be told, why not adhere to the truth in the telling? Why convey the impression that a young man whose blood shows a positive Wassermann reaction never can marry? Why infer that a cripple must, necessarily, propagate cripples? Surely, as a rule, the truth is solemn enough and impressive enough without having to be bolstered up with cheap and manifest exaggeration and even obvious untruths. Certainly, it would be so much more simple to teach people that the unfortunate victim of syphilis is not absolutely doomed, but that he can be relieved of his scourge, even though it be at great sacrifice, through a persistent course of treatment for a period of from three to five years.

If every person, once a syphilitic had to refrain entirely from reproducing his or her kind, even though cured of the disease, the birth rate would diminish even more than it has done during the later decades. There is such a thing as a cure of syphilis, but it requires years of treatment and can be established only by freedom from all symptoms, including the positive Wassermann test, during an observation of, say, two years. But, when all conditions are complied with, the cured luetic may be permitted to marry with greater safety than may the "cured" gonorrheic, and with greater confidence that no dysgenic results will be visited upon his children, especially if the mother is treated during her pregnancy.

The author of the play in question, being a physician, would have been more true to his calling and more true to facts if he had driven home the lesson in accordance with the truth, instead of overshooting the mark and pretending that syphilitics may not ever marry. In doing so he invites the breaking of the rule that he establishes, and encourages deceit and neglect.

In the other matter, that of the unfortunate hunchback whose story is told so touchingly, physicians and biologists cannot but smile at the idea suggested in the story: that physical deformities will be reproduced in the offspring, when it is known to the laity even, but certainly to breeders of animals, that such an event is very exceptional.

In telling this story of Haiselden, the lesson could have been drawn just as impressively, indeed, much more forcefully and convincingly, if the damnable effects of a rotten environment had been put in their true, unfavorable, light, rather than the fact of the physical distortion. It does not appear that the hunchback's parents were guilty of anything but physical distortion, poverty and ignorance. It may be inferred, perhaps, that they were syphilitics, likewise, but that fact is not mentioned. It might be assumed that they were alcoholics, epileptics, and subject to other forms of degeneracy, all of which would have afforded a useful and true lesson.

Of course, I do not know whether these things were not brought out in the original version, but I submit that the physician-author should see to it that the tabloid version of his "play" is true to fact. It is only truth that is a good teacher. Untruth will defeat its own ends. Nevertheless, the lesson which

it is meant to preach is a good one, and plays of this kind may properly be made use of to teach the public.

Those "in authority," who regard innovation from the viewpoint of heresy, recall the *bon mot* by a witty compatriot of Talleyrand, who, in commenting on the conservatism of the latter said, if Talleyrand were present at the creation, he would have exclaimed: "Good gracious! Chaos will be destroyed."—Albert Abrams.

ON THE ABSORPTION OF DRUGS

Doctor, if you think that drug-therapeutics is exhausted, that all there is to be known about drugs has been discovered, just do this thing: Take any drug you choose, the one you know best, and tell us exactly what it does, how long it takes to get into action, how soon the height of its activity is reached, how long this is maintained, how long it takes to decline, and how and when it gets out of the system, if not utilized as a food in the body or broken up into decomposition-products. If you can tell this of a solitary drug in the Pharmacopeia, you sure know more than some other physicians do.

But, if you can not tell this about every drug in the list, you hardly can assert with plausibility that drug-therapeutics is an exhausted science. And neither you nor all the doctors in the world collectively can truthfully claim this knowledge of every official drug—for, this knowledge does not exist. After a lifetime spent in the study of drugs and their properties, the present writer can say, as the net result of his studies, that the surface of this field has scarcely been scratched.

Here is one of the things that encourage us in the hope that some day yet this topic may begin to receive some attention:

In *The New York Medical Journal* for April 15, Leroy D. Swingle, of the University of Utah, presents a study of the factor of absorption in drug-therapeutics. Just take his opening sentence as an index: "In general, the intensity of action of a drug depends upon its concentration in the tissues; so, the problem in therapeutics generally is, to bring the concentration of the drug in the tissues up to the point of modifying to the desired degree the function of a given organ without unfavorably involving other organs."

There is here a conception of drug-action quite different from that of disease-specifics.

Absorption and excretion are not, however, uniform in all individuals, nor at all times in the same individual. Hence, there is always a necessity for watching the action of a medicine. As we have often remarked, by attending to the therapeutic accuracies, we may remove most of the uncertainty from our drugging; but we must remember the difference in the individual reaction against the drug.

The morphology of the sheep-tick renders it especially liable to the influence of volatile drugs, so that these substances, even if of low toxicity for protoplasm, possess high toxicity for these ticks. Chloroform, to them, was determined to be 100 times more toxic than an equal solution of chloral hydrate, the difference being attributable to the volatility of the former. The difference being due to the physical properties of the drug, which determine the quantity that could be brought into action upon the tissues, and not upon any specific toxicity toward this creature, it is evident that the question of absorbability is of the utmost importance.

The rapidity of diffusion is quite different for different drugs. It is a question to what degree we can utilize muscarine, since it is eliminated with such swiftness that it is scarcely possible to accumulate a therapeutic dose in the body, unless it is injected intravenously. Just how one is to secure the full action of podophyllin, when this drug, which requires fourteen hours for its activity to develop, is followed by salines demanding only two hours, is one question for the advocates of this combination to solve.

Salisbury called attention to the fact that when drugs are taken into the stomach, they are carried by the portal vein to the liver, which then throws the greater part of their active content out into the bowel for excretion. The effects are due to that part which escapes the hepatic sieve and enters the general circulation. But, if the remedy be absorbed from the buccal mucosa, it enters and passes through the general circulation before it reaches the liver; hence, the effect of a given dose must be much greater. Is this true when put to the test? How many readers have made observations of the matter? If correct, it is too important to be overlooked by any careful clinician.

This writer recollects one case, occurring in his far-distant youth, when he lost a promising patient through his own presumed negligence. The lady was taking tablets of terpin hydrate, and the doctor was anxiously watching for the promised effect (it was his first trial of the remedy), when the patient discovered that the tablets were passing her bowels and being ejected, little if any the worse for their heroic trip. She at once concluded that the doctor must be paying very

little attention to her case, if he had not seen that his medicines were not doing anything—and she changed her medical adviser at once.

Take any water-soluble remedy, dissolve the dose in hot water and take it into the mouth, holding it there as long as possible; and the activity will be manifested almost or quite as quickly as if it were taken subcutaneously.

All things on earth have their price; and for truth we pay the dearest. We barter it for love and sympathy. The road to honor is paved with thorns. But on the path to truth, at every step you set your foot down on your own heart.—Olive Schreiner.

ORGANIZATION OF A NATIONAL RESEARCH COUNCIL

Arrangements have just been completed in New York whereby the resources of the Engineering Foundation, under the auspices of the four principal national engineering societies, are placed at the disposal of the National Research Council, which was appointed by the National Academy of Science at the request of President Wilson. The object of the council is, to coordinate the scientific research-work of the country, in order to secure efficiency in the solution of the problems of war and of peace.

In indicating how thoroughly every branch of science and engineering is represented in the council, attention is called to the personnel of the body, in accordance with the purpose of the council to enlist the cooperation in the solution of our industrial and military problems of a scientific character, of every possible established agency. Medicine, for example, is represented on the council by Dr. William H. Welch, president of the National Academy of Science; by Brigadier-General William C. Gorgas, surgeon-general of the United States Army; Dr. Simon Flexner, director of the Rockefeller Medical Institute; and Dr. Victor C. Vaughan, past president of the American Medical Society; while biological science is represented by Dr. Edwin G. Conklin, of Princeton University; chemistry, by Dr. A. A. Noyes, of the Massachusetts Institute of Technology, and Dr. L. H. Baekeland; physics, by Dr. A. A. Michelson, of the University of Chicago; and electricity, by Prof. M. I. Pupin, of Columbia University. In addition, there is a strong representation from the great engineering societies, while the important military aspects will be presented to the council by many of the leading military authorities.

The council, thus, includes representatives of all of the important scientific activities bearing upon military or industrial problems. The executive-committee's plans are of wide scope, and the support already pledged will insure immediate action where the need is greatest.

A similar organization in England has been of immense assistance to the British government during the war. The American organization should be of equal value to our government, but it is hoped that the industrial benefits will be no less important than the military ones.

There is no logical reason why women should suffer during labor. Surgeons will not permit their patients to suffer during an operation. Suffering, physical or mental, produces surgical shock; it increases the danger of puerperal complications, and delays the convalescence. The suffering can be relieved, and with perfect safety to both mother and child.—C. H. Davis.

HOW DO DIURETICS ACT?

If we except the expectorants, no class of remedies is administered with as little real knowledge of their mode of action, of just how they operate as are the diuretics. In our student days, the professor once asked the class what division could be made of these agents. One volunteered the suggestion that they might be divided into diuretics that increase the fluid (water) and those that increase the solid elements renally excreted. To the further query, as to what agents might be placed into the latter class, nobody replied. Reference to the textbooks gave no information upon this point. The teacher told the class that colchicum increased the output of urinary solids.

This statement directed our attention to the meadow-saffron. Turning to the books, we found that, of this plant, not less than six classes of fluid preparations were official, namely: the fluid extracts, wines, and tinctures of the seeds and of the corm. Upon our inquiring of our preceptor which he considered the best, he said that neither of them was any good; personally, he used only an English wine (whether of seeds or corm, was not said).

Since that remote period, some progress has been made. We have become able to study the vasomotor conditions back of deficient urinary excretion, and have learned to apply our remedies in accordance with our finding. When the vascular tension is so high that the constriction of the renal arteries pinches off the blood supply to the glomeruli,

the urine becomes scanty; and then we administer vasorelaxants, such as veratrine. When, on the other hand, the capillary circulation has given way and general anasarca is present, the laboring heart vainly trying to propel the blood through this swamp, we endeavor to canalize the blood-channels and, so, resort to the vasoconstrictors, such as apocynum.

It is obvious that in both conditions named success lies in securing an exact balance of circulatory tension, since overaction in either instance will induce the opposite fault and thus nullify the potential benefit.

This classification, however, leaves out of calculation the saline diuretics, for the action of which we never have met a satisfactory explanation; unless it be that they act as diuretics solely through the water drunk with them. They may, it is true, induce some form of irritation of the renal secretory structures, but this can not be of a nature such as is exerted by the volatile oils, like juniper-oil. This writer has found that small doses of the latter oil certainly do increase renal activity, but whenever the doses were increased the urine secreted became so scanty that he grew alarmed and stopped the experiment. He can not conceive that such remedies are safe or that the delicate and vitally essential renal cells should be subjected to such forms of irritation. Besides, he has not been able to think of any form of disease in which such medication would be required and no other kind be available.

Thus far we have been considering the urinary excretion as a whole; now we may ask as to what has been the progress, since the year 1870, in studying the effects of drugs upon the various solid constituents.

Widal was the first one to call attention to the importance of deficiency in the excretion of urea and of the significance of its retention in the blood. Busquet has presented the more recent work in this direction, in a paper in *Le Monde Medical* (No. 349, p. 195).

Drugs of the caffeine group stimulate the excretion of urea, and also of chlorides and water. Squill notably increases the urea output, but has scarcely any effect upon the volume of the water of the urine; that is, in healthy subjects. However, in those suffering from retention of urea, the effects are much more remarkable; for, even when theobromine and adonidin had failed in Busquet's hands, squill gave prompt and decided relief in this condition.

Chevalier has spoken of the diuretic action of mistletoe, in which he discovered an alkaloid. He and others found that mistletoe increased the excretion of chlorides and of urea; Busquet, however, has failed to verify this, using poplar or May month mistletoe. The extracts used, however, were too crude and uncertain for modern testings.

Pic determined that the formiates and sugars also increased nitrogenous excretion, but confirmation has not yet been afforded.

A true diuretic of the class in question not only must increase the urinary urea, but must lessen the proportion of urea in the blood. Otherwise, the addition of a peptone-solution to the ordinary diet would be diuretic. In two azotemic (nitrogen-retaining) patients, Busquet found that the daily use of squill (15 milligrams thrice daily) reduced the proportion of urea in the blood, from 0.65 and 0.80 per liter, to 0.39 and 0.45, respectively, after 10-days' treatment. The first figures were obtained after these patients had been for two weeks on a hyponitrogenous diet, after which the squill was commenced. However, it was found that the increase in urea excretion lasted only during the first four days of administration of this drug. By that time the urea in the blood had decreased to the point where squill no longer acts, since it requires a certain proportion of urea for any excretory effect to be manifested.

The conclusion of this valuable paper deserves being quoted entire:

"Squill remains, in the hands of the therapeutist, a valuable means of combating a syndrome which commonly presents itself in the course of nephritis, namely, renal impermeability to nitrogen. From the doctrinal point of view, the investigation of the properties of squill gives prominence to the view —important to the clinical physician, and previously formulated by Widal, on the strength of his observations of Bright's disease—that the excretion of urea determined does not warrant any conclusion as to the proportion of urea circulating in the blood. This principle is established both by pharmacodynamics and by pathology, and it should be borne in mind whenever we undertake the investigation of azotemia in the patient. Lastly, our knowledge of the stimulating action exerted by squill upon the cells that excrete urea suggests interesting data for further research. It is not unreasonable to infer that the histological renal lesions provoked by large doses of this drug bear precisely upon those parts of the uriniferous tubes through which urea passes, so that squill,

possibly, may enable us to study the elective activities of the various canalicular segments."

It is in the petty details, not in the great results, that the interest of existence lies.—Jerome K. Jerome.

TOXEMIC DELIRIUMS

The more important is a newly discovered truth, the greater is the opposition its promoting arouses, and the difficulty experienced, before it wins general acceptance. It is quite natural that, the further the truth penetrates into the foundations of human thought, the greater is the difficulty of the general human mind in adjusting itself to the new idea. Nor is any such fundamental truth ever accepted at once, or by general consent, as is, for example, a vote of congress. Rather, it slowly, imperceptibly, permeates the human mind, until finally it becomes a part of the subconscious possession, sometimes even the ultimate basis of our belief and reasoning.

This seems to be true in the case of autotoxemia. One cannot compare the writings of recent authors with those of a decade ago, without noticing the degree to which this principle is being accepted and used as a basis upon which reasoning is built.

For instance, we find an exceedingly interesting paper in the June number of *The Illinois Medical Journal*, by Douglas Singer, of the Illinois State Psychopathic Institute. The article is entitled: "Toxic Delirium, and Its Management." The reading of this paper leads one to ask whether the opening word of the title, "toxic," be not tautologic, since in the enumeration the Doctor gives, there appear nothing but exceptional cases of delirium. The name is to him merely a symptom, denoting the effect of a poison, circulating in the blood, as exerted upon the brain-cells. However, in infectious diseases, it is a bad prognosticon. But this is simply because it is an index of the degree of toxemia present and the virulence of its impression upon the centers of life.

In cases of autointoxication, there is evidence of brain involvement, shown by malaise, difficult concentration, poor judgment, and irritability. Delirium is not an indication for any specific remedy, but rather of an impress made upon the brain by one or other of some toxic substances, the nature and production of which must be estimated before applying the treatment. The resistance of each individual to a certain kind and quantity of toxins is to be considered as well.

A toxic blood supply to the brain-cells means abnormal cell metabolism. The resulting disorder of conduction-function can only be shown in one of two ways—an increase or a lessening of excitability. There is no question as to the secretion by the nerve-cells or other secretory organs, but rather of an increased or lessened activity of these cells.

This effect by no means is uniform. Some toxins possess a special affinity for certain groups of nerve-cells, and some cells are better able to withstand toxins than are others. Hence, there may be marked differences in the pictures resulting. The cerebral functions that were earliest developed are naturally more resistant than the later ones, consequently brain intoxication will induce first disorders affecting functions of a later development of the intellectual advance.

No doubt there is a difference in the reaction of the human brain to different toxins, and for some a certain special immunity seems to have been acquired. Atropine especially affects the eyes, whereas cocaine exerts its greatest action upon the skin. The high degree of differentiation of the earliest groups of nerve-cells also makes lesions of them much more disastrous than, for instance, those of the kidneys, where, all of the cells being alike and there being a surplus above those required for ordinary use, a large portion of them may be destroyed without seriously injuring the individual.

For a while, delirium may prove temporary, to the extent that the patient does not die from the toxemia, yet, he does not always fully return to his previous mental level. An illustration of this is the mental deterioration that sometimes follows a severe attack of typhoid fever.

Singer groups the toxins that may give rise to delirium as follows: those which result from (1) the use of drugs and food, (2) from microorganisms, (3) from organic disease interfering with excretion, and (4) from strictly autogenous intoxications of very obscure nature, such as those following severe emotional crises.

His chapter upon treatment is equally as interesting. A routine is impossible. He points out that, dealing with a temporary disturbance, the main objects of symptomatic treatment must be, to preserve strength and avoid death through exhaustion. Delirium itself occasions a considerable increase in metabolism, especially when high fever is present. Elimination will sometimes diminish the reaction, although intoxication is

present. This naturally points to the importance of the supply of water. Many times these patients take far less than is desirable. In a recent test, the red blood-cells were found to reach seven million per mil (ccm.) Restlessness was markedly diminished after the subcutaneous administration of physiologic salt-solution. However, the change was only temporary; nevertheless, it was highly significant.

It must not be forgotten that the cells of the digestive tract suffer as well as those of the cerebral centers, and consequently the digestion and assimilation of food may be impaired. At the same time, delirium means increased metabolism. The food should be supplied, therefore, in forms easily absorbed and affording a large hemogenic value. For this reason, liquid food is better, and this may be predigested. The sugars are of especial value, as being easily combusted and materially saving nitrogenous constituents, which are not so readily absorbed.

Doctor Singer favors the moderate use of alcohol, the daily dose for an adult being named as that represented by 3 ounces of whisky. He considers this a readily available source of energy, easily absorbed and readily oxidized. It must be taken, if at all, well diluted. But, while it may help the appetite and exert a little narcotic effect, alcohol must not be regarded as a cardiac stimulant. Quite frequently these patients refuse food and the problem of feeding them is an exceedingly difficult one. If the feeding by mouth is not very satisfactory, then, in the case of women, the vagina will be found to absorb far more nutriment than does the rectum. This has been determined by observation.

It must be remembered that starvation is a common source of delirium. The refusal of food is, however, not always a simple effect of toxemia. The present writer well remembers a case in which the patient, demented, eventually died after a long continued refusal of food and despite every effort made to feed him. At the autopsy the stomach was found to be contracted to such a degree that it held less than one ounce.

The importance of rest, quiet, darkness, and good nursing are mentioned by Singer. However, these are not always possible of attainment in a large institution holding many and varied cases.

Hydrotherapy has its values and its dangers. A prolonged bath may afford some needed water to the system. Undoubtedly it also removes a great deal of the toxic matter excreted through the skin. This excretion must be considerable when the patient lies in a warm bath for a long period. Doctor Singer cautions against the indiscriminate employment of these measures, having, as he says, seen more than one patient collapse in pneumonia from applications of water. The patient may lie in a cool pack for one or two hours, and, if he falls asleep, may be left until he awakes spontaneously.

Doctor Singer's paragraphs begin with a warning against the prescribing of morphine. When hyoscine is given, he prefers that it should be used alone. This alkaloid has little effect upon the heart, while reducing motor restlessness; nevertheless, it depresses the respiratory centers, a fact that should induce caution in its administration. Paraldehyde is probably the least objectionable hypnotic, the objection to it being its very unpleasant odor and taste. Chloral in moderate doses is safe, but, in larger ones, a powerful cardiac depressant. Trional acts much more rapidly than sulphonal. Sometimes the two may usefully be combined. Veronal is more toxic, through its being less rapidly excreted. The bromides are of very little value.

Doctor Singer warns against the indiscriminate use of the cardiac stimulants. Strychnine is not a true heart stimulant at all, but increases the excitability of the nerve-cells of the cord and medulla. Hence, in these conditions, it should be given with great caution. Digitalis is slower, but forms our chief aid. Some things that are possible to happen, are, the occurrence of bed-sores, the patient's running away, and his committing suicide. These must be guarded against.

The present writer wishes here to call attention to an exceedingly potent remedy in such conditions, formerly in use; namely, antimony. It has been many years since any reference to the use of this oldtime remedy, for any purpose whatever, has been seen in any medical journal. Nevertheless, it is one of the most tremendously powerful agents at our disposal for the quieting of acute delirium, whether febrile, alcoholic or emotional. This sedative effect we now may attribute to its rapid stimulation of the eliminants, by which the toxins generated by the disease are carried out of the body, until the cerebral centers are restored to normal function. We have seen a patient with a wild, fighting delirium of the preliminary stage of typhoid fever, requiring a number of men to control him, reduced inside of twelve hours to a rational condition of mind, with the

eliminants all acting and the fever well down, after a rapid course of tartar emetic. This was accomplished without danger to the patient, and was followed, in due course, by his complete recovery from the disease.

There was good reason for the popularity of antimony among our forefathers, as well as for that of calomel and bloodletting. When the revival of therapeutics takes place, it undoubtedly will be found that we can with advantage go back, in proper cases, to the use of these powerful remedies. True, they will never be used as indiscriminately as they were, and, moreover, they will be prescribed with a correct idea of their real action; but, as our realization of the importance of toxemia grows, so will our resort to the eliminants increase. We even may see antimony restored to its pristine place as our main reliance in the treatment of pneumonia of the sthenic form. That the remedy was abused, is no reason why we should deprive ourselves of the advantages accruing from its correct employment in suitable conditions.

THE VITAMINES IN THE DIETARY

The venerable Samuel D. Gross once remarked to us boys that he had never known an adult man to recover robust health on a limited diet. "The needs of the human body are so many that a diet containing the greatest possible variety affords the best results." This again illustrates the folly of basing our reasoning on the presumption of our complete knowledge of any matter. We must never forget that we, individually, possess but a small modicum of the knowledge attained by the human race; and then, that the whole mass of human knowledge is but a little fragment of the absolute, full truth.

Fifty years ago, we did not know why man requires variety in his diet or why it is such an impossible task for anyone to eat a quail a day for thirty consecutive days. We do not know much more today; still, we do know a little more. However, researches of the kind now being conducted at the Wisconsin College of Agriculture, and described by Prof. E. V. McCollum in *Hoard's Dairyman*, give the promise of much—of the dawn of a better day. Here are a few brief notes about this interesting work.

It has been found that when animals are fed on a balanced ration of purified foods, foods containing the proteids, carbohydra tes fats, and salts, in requisite proportions, the animals nevertheless failed to grow unless, egg- or milk-fats constituted part of the diet. Upon removing the egg-fat, growth stopped. No other fats could replace the fat of egg or milk for sustaining growth. Further, when the fat of the egg-yolk was left in, but most of the rest of the yolk removed, growth also ceased. When, next, the fat-free yolk was treated with water and filtered, and then this water added to the food, growth was resumed.

It was evident that there are in the egg two substances essential to animal growth, one a component of the fat, the other a water-soluble principle contained in nonfatty portion of the yolk.

Similar observations were made with regard to meat, alfalfa, and the cereal-grains. An aqueous extract of the latter promoted growth; but when these extracts were dried, and incinerated, the ash did not possess this power. Consequently, it was not a question of calcium, silicon, sodium or any other chemical element, but the thing was an organic something that is destroyed by heat. This second essential element, as now is well known, is widely distributed in the vegetable world, although not universally, and those races that live on polished rice and fish contract beriberi for the lack of it. Polishing rice removes the germs, as does milling in the case of very white wheat-flour. These two essentials to growth are now known as vitamines; since, however, they differ notably for each kind, McCollum proposes that they be designated as fat-soluble *A* and water-soluble B.

While these vitamines are essential to growth, they can not sustain the body alone. The human body requires proteids in many forms, and these should be supplied in fixed proportions. Too little of one renders the rest unavailable, as the builders of a house must all stop work if, for example, the plumbers are behind with their part. European investigations indicate that the protein is split up into at least eighteen products. If any food lacks one of these socalled amino-acids, it must be supplemented by some other food containing it. These amino-acids are not interconvertible.

Now we begin to see the scientific basis for our revered preceptor's sage observation. The man who insists upon a varied diet has a solid argument to back up his position.

But here we draw the line—the admission of the vitamines proves only their value, and this need not open the door to a flood of mysticism and reviving superstition.

Leading Articles

Remarks on Criminal Mutilation of the Genitalia

By G. Frank Lydston, M. D., Chicago, Illinois

CASES of criminal mutilation of the genitalia are far more frequent than the medical profession in general supposes. The assault is most often committed by the male; still, the female is more frequently guilty of criminal mutilation than the published cases would lead us to believe. The secretiveness of the male who thus has been mutilated by the female readily is understood, and it also accounts, in a measure, for the relatively great infrequency with which women are brought to book for criminal acts of this nature.

The psychology of cases of genital injury by criminal assault varies. As originally formulated by the author, they are:

1. Simple jealousy. Women sometimes not alone injure the offending male, but also the female rival, making the genitals the object of assault. The male often makes the genital organs the objective point of assault upon a rival. The dominant idea in most cases is, revenge.

2. The desire to deprive a rival of what seems to the jealous person the chief point of interest to the rival.

3. A desire to punish the one at whose hands the assailant has suffered injury in this domain.

4. A "dog in the manger" sentiment. Both women and men have been known to commit sex mutilation on persons in whom they no longer had a sex-interest.

5. The desire to protect oneself from future encroachments on one's sexual rights. A comparatively recent famous western case is in point.

6. Insane impulse.

7. Reversionary instinct, resulting in sadism. Apropos of this point, the attack of the female spider and of the female mantis religiosa upon the male after copulation are illustrations.

The author of this paper has met with a number of cases of mutilation of the penis by jealous women, and two cases of complete amputation, besides the one herein recorded. A fourth case has been reported to him by a colleague. Quite recently, also, a case came under his observation, of mutilation of the testes produced by a similar agency.

Wound of the Glans Penis

Case 1. A man thirty years of age quarreled with his mistress, who had become jealous of his attentions to another woman. The following night, while the man was asleep, the woman attempted to amputate his glans penis with a pair of shears. In her excitement, she bungled the operation and the victim awoke in time to prevent its completion. A wound about 3-4 of an inch in length was inflicted, penetrating to a depth of perhaps 1-4 inch just in front of the corona glandis. Bleeding was profuse, but it was checked by means of pressure and a small bandage applied by the patient himself.

The man consulted me about two hours later, when I inserted catgut sutures and applied a dressing of bismuth subiodide, and a narrow gauze bandage, reinforced by adhesive plaster. Healing was prompt and without resulting deformity, save during erection. Ever since the injury, which occurred twelve months ago, the glans upon the injured side fails to become thoroughly distended on erection. This condition, however, has steadily improved and at no time has interfered with coitus. Complete restoration of circulation probably will not occur.

Complete Amputation of Penis

Case 2. Referred to me by the late Dr. H. F. Steere.* An honest, hard-working, decent Bohemian, forty years old, incurred the jealousy of his wife through what she

*Originally reported in N. Y. Medical Journal, Feb. 3 1912.

chose to believe was his indifference due to attentions to other women. So far as the author was able to determine, the woman was abnormally developed sexually and the "indifference" of the unfortunate victim of her jealousy and vindictiveness was owing merely to the physical fatigue incidental to his occupation, which was that of a laborer.

About 3 o'clock on the night of October 15, 1911, while the man was soundly sleeping, the wife procured a razor and completely amputated his penis, about an inch from the pubic symphysis. The hemorrhage was, of course, very profuse, and, as Doctor Steere, who was called, did not arrive on the scene before about forty minutes, he found the patient in semisyncope and almost exsanguinated. The amputated organ was found hanging by a narrow strip of integument.

After severing the skin and removing the injured member, Doctor Steere trimmed the stump, leaving the urethra longer than the stump. He then split the "cuff" of the urethra and stitched it partly over the stump, to form a pseudomeatus. A small, soft rubber catheter (No 17 F.) was left in the bladder. Healing was prompt, and the author was privileged to exhibit the case at his clinic, three weeks later.

It would seem that the foregoing victim of jealousy and revenge had experienced about all the trouble that was "coming to him," but it remained for an accident to add to his quota of misery. Several days after his admission to the hospital, the catheter which had been left in the bladder "turned up missing." There was much argument as to what had become of it. Doctor Steere could get no definite information, but, being suspicious that the instrument had been permitted to become lost in the bladder, kept the case under careful surveillance. A severe cystitis, and ammoniacal urine developing, the patient was brought to the author for examination.

By cystoscopic examination, the catheter was located at the base of the bladder. It was curled upon itself several times, the distal portion extending up toward the fundus some 2 or 3 inches. The texture of the catheter could not be seen, on account of the incrustation of the instrument with urinary salts and mucopus. The cystoscope was withdrawn and a lithotrite introduced. With this the catheter was grasped at the second attempt and with some little difficulty, withdrawn from the urethra. Then, just as the beak of the lithotrite with the catheter in its jaws appeared at the meatus, the catheter slipped from the grasp of the instrument and was lost in the urethra; after a little effort, it was caught and withdrawn with an alligator forceps.

There was considerable hemorrhage, mainly from the contracted pseudomeatus, which was torn a little by the passage of the lithotrite and the extraction of the catheter. The hemorrhage was readily controlled by adrenalin. Since the extraction of the catheter, this most interesting case has been doing well. The author of this paper, in two previous cases of retained catheter drainage, similarly extracted a lost catheter from the bladder.

25 E. Washington St.

Studies in Dementia Praecox

Public Education in Regard to Dementia Præcox

By Bayard Holmes, M. D., Chicago, Illinois

EDITORIAL NOTE.—Doctor Holmes' Studies in Dementia Praecox have aroused much interest among physicians and public-spirited persons, both in this country and abroad, and we take pleasure in being able to publish the following communication on the same subject.

THE name dementia præcox for the insanity of youth is now coming into general use and the condition itself is becoming recognized in wider circles. So far as this malady is concerned, it must be said that it carries with it as absolutely unfavorable a prognosis as did pulmonary tuberculosis fifty years ago. Just as fifty years ago tuberculosis was considered inherited and transmissible, so now dementia præcox is considered inherited and transmissible. In opposition to this view, the public, by all means, should be taught in season and out of season, that the origin the etiology, and the *vis morbi* of dementia are unknown, and that the hereditary factor has, absolutely, not been established. Because tuberculosis "runs in families," no one understanding its etiology would call it a hereditary and transmissible disease. It would save much confusion if the public could be made to understand that the etiology of dementia præcox is unknown; that there is no more

evidence of its hereditary nature than there was of the hereditary origin of tuberculosis before the discovery of the tubercle bacillus.

The second fallacy which causes the friends of the insane much unnecessary confusion and grief is, the belief in the inscrutable nature and the irremediable character of this condition. When a parent finds one of his children stricken with a bone disease or some deficiency of assimilation, of circulation or of excretion, he proceeds to secure advice and assistance, without damning the reputation of his whole family, including his ancestors and his descendants. Hospitals are open and physicians and surgeons are ready with curative and remedial assistance; and in the worst cases sympathy and consolation are offered.

Not so in the case of dementia præcox, for, this disease, or condition, is looked upon as "self-inflicted," "hereditary," and "a public stigma of a degenerate and corrupt ancestry." It is thought to be without remedy in purgatory or redemption in eternity, a damning nemesis of obscure but ominous stirpigenous origin. This presumption of dementia præcox being a disease from which there is no recovery, which is incurable, nonameliorable, hereditarily transmissible, the stigma of degeneracy, arrests all effort at research for the solution of the problem, disparages all undertakings of a remedial or re-educational nature and all adventures for cure.

Some victims of dementia præcox get well. There are many others that experience partial recovery, so that they go home and live, if not normal, at least endurable lives with their anxious, confused or confounded families and neighbors. Among primitive peoples, these partially recovered precocious-dementia patients often were thought to have been near God, and thereupon charged with some sacred function. By us, these persons are called simple-minded, foolish or demented, and many of them, on the dissolution of the family, at the death of devoted parents or brethren, become mere neighborhood tramps. They are then subject to the unreasoning caprices or unthinking cruelty of the community. In the cities, their position is even worse, for they drop to the lowest strata of city-life and are made tools or drudges for the dissolute and the evil.

The Inhumanity of Unsexing

Another very serious burden which both the insane and the friends of the insane have had to bear has resulted from misinformation and shortsighted or bigoted reasoning. A pseudoscience has sprung up, called eugenics. Its principal promoters are childless females and overendowed and overpaid social therapeutists. Their great "cureall" is, suppression of procreation. They would legally spay and castrate every criminal, every imbecile, every idiot, and every insane person, even every dementia-præcox patient, despite the fact that these very individuals are notoriously sterile, as a result of their condition. In many states today, legalized desexualizing, or "sterilization," is statutory.

Consider, please, for a moment the fear of the clutches of the law, which the anxious adolescent holds, beginning with ominous legal commitment and having such a sharp claw, as spaying and castration, unconcealed. It seems strange, indeed, that our legislatures can be carried away by the manicured, silk-stockinged, and endowed eugenists to such legislative atrocities as the sterilization of the dementia-præcox victims, already too thoroughly sterilized by the inevitable process of the disease.

The sterilization-laws delay hospital treatment, they make the name of state-hospital feared, they add to the frenzied fear and suffering of the patient on and after commitment, and to the agony and distress of the friends of the insane.

Forcible Restraint Should be Abolished

Ostentatious restraint is another cause of unnecessary agony and fear to the patients and the public. These restraints are needlessly damaging to the patients and should be legally removed and inhibited. When Dr. George Zeller removed nearly forty-thousand-dollars' worth of window-bars, iron gratings, and other material restraints from the Peoria State Hospital buildings, he piled them up as a perpetual monument to progress in the humane and rational treatment of the insane.

But all the hospitals in the state are not yet stripped of their prisonlike features, nor are the keepers of the insane agreed upon non-restraint, either in theory or in practice. Hospitals for the insane are, today, under construction, with expensive and ostentatious methods of restraint build into every architectural feature. These restraints terrify, they are frightful, and disheartening. Moreover, they are unnecessary and mitigate against recovery. They bring the service into unpleasant relations with the public and detract from its purpose and its usefulness.

How to Secure Removal of Forcible Restraints

One of the first steps in the removal of restraint, and one which stands only a step

below "research for cure," in its importunity before the board of administrations is the classification of patients and the separation of the different classes into institutions adapted especially for each class. Administratively, it is a simple problem to take care of the ten thousand insane in one way and with one sort of plant and equipment, compared with taking care of ten groups of one thousand members each, in ten quite different outfits in equipment and faculty.

Yet, who will deny that the syphilitic insane are numerous enough, their disease peculiar enough, the methods of treatment technical and special enough to demand of an efficient administration a specially constructed, equipped, and manned hospital for their cure. It would be cheaper and better, and it would promise infinitely more recoveries than the present system.

The same thing may be said of the senile cases. What has an old man, or old woman done that the natural activities of labor, service, and civil and family usefulness should at last bring them before a court to be declared insane and sent to the "state hospital," in company with the syphilitic, the morphine-fiend, the alcoholic maniac, and the common drunk? The aged insane need an entirely different service, an entirely different plant and equipment for that service, than that required for the general paretic or for the alcoholic.

Modern, Humane, Care of the Demented

A large part of the chronic insane, mostly cases of arrested or partly recovered dementia præcox, would be far better off in a colony than confined in soul-destroying wards.

In Europe, colonies for the care of the harmless insane have long been in successful operation. At the beginning of the present war, there were three in Holland, two in Germany, two in France, and two in Belgium. All of these colonies were based upon the experience of the colony at Gheel, Belgium, where for six centuries the insane have been taken care of in the homes of the villagers.

Since 1852, the work at Gheel has been under government control. It has a small receiving hospital, where new patients are studied and classified before they are permitted to board with one of the local families. Seldom are patients confined permanently in this hospital, beyond the three weeks for diagnosticating.

Every family at Gheel accepts patients as boarders, and a family is permitted to care for two patients. Restraint is never used. The patients are supplied with normal occupations, normal amusements, and follow a normal routine of daily life. They come and go about the village at will, are members of its churches and musical organizations, and mingle freely with the crowds at fairs and other festivities.

In discussing the colony-system for the care of the insane, R. Cunyngham Brown said, in 1908, that, wherever and however initiated, it has invariably been found to be, not only a relief to congested asylums, *but in itself is a valuable therapeutic aid.*" With particular reference to Gheel, Alice Isaacson wrote, in 1912: "As to the results of the system, it is stated by the authorities that the general health of the patients is excellent; during the past few years, the death rate has averaged about 4 percent; fatal accidents, from whatever cause, are rare; while, *with regard to recoveries, these, at least since 1880, have been 19 percent.*"

Two noteworthy factors enter into the life of the patient at Gheel. The state furnishes him with regular medical attention from doctors who devote their entire time to the work in a given, limited, district of the village, and the considerate, understanding treatment from the family with whom he lives, that gives him a feeling of companionship rather than one of isolation. He is not herded with thousands of others and at the same time, deprived of all normal activity; rather, he is a member of a family that understands his peculiarities and, yet, insists that he do his share of work in keeping the house and garden and also insists that he live up to the best that is in him. He has the society of children and often is given the responsibility of looking after them; a responsibility that immediately teaches him self-control and brings him happiness.

These normal activities and surroundings can not be secured in an asylum. Neither can any advance toward them be made while we retain mechanical restraints and male attendants. The restraint exercised by the customary male attendant is really the most difficult to do away with. Under the system of civil service in Illinois, these organized sluggers are more powerful than is any conscientious physician who would curb their cruelties. Not long ago, it was possible in Ohio for the male nurses to secure the discharge of an efficient and conscientious physician who was at his post of duty day and night and insisted that his orders be carried out, and who saw to it that slugging of a patient was reprimanded by the superintendant.

It is perfectly practicable for all the nursing in a hospital for the insane to be done by female nurses. The success of this system at the Peoria state hospital, under Dr. George Zeller, and, more recently, at the state hospital at Mendota, Wisconsin, is unqualified. The conditions are infinitely better, the patients are happier, and atrocities, so common under male attendants and guards, are unknown. The substitution of female for male nurses not only means the removal of ostentatious restraint, but it means the substitution of usefulness, helpfulness, and cheer in place of the occasion to commit vindictive, frightful and cruel acts.

However, there will come no change in our antiquated system of segregating custody, unless the people, the thinkers, the voters, and the newspapers insistently demand it. America is the most conservative country in the world, and before the great war was the most retarded in its care and study of the insane.

These are the immediate demands which our people and the friends of the insane should make:

1. The institution of liberal, vigorous, intense, and active research into the causes of the insanities, the possibilities of cure and of prevention.

2. The classification of patients and their treatment under conditions best suited to their cure or their comfort, in which the scheme of the colony-treatment like that of Gheel, should not be omitted.

3. The raising-up of the old-time asylums, now called state hospitals, into hospitals for cure, with the exclusion of male nurses and ostentatious restraint.

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Acute Epidemic Poliomyelitis

A Contact-Infection

By Philip A. E. Sheppard, M. D., Boston, Massachusetts

EDITORIAL NOTE.—Doctor Sheppard, who contributes an unusually interesting paper on the subject of infantile paralysis, has had a wide experience in this disease, having been engaged as investigator in behalf of the Massachusetts State Board of Health, during the epidemic of 1910. His conclusions on the direct communicability of the disease command attention.

In earlier papers (1, 2), certain facts were advanced and groups of cases elaborated which indicated the important probability that in a large number of cases personal contact furnished the means of conveying the infection of acute anterior poliomyelitis. It has invariably been my experience to find that in a number of families where more than one case developed there was a lapse of time sufficiently long between the early and the later cases to provide for an incubation-period—which, to my mind, is an argument in favor of the contagiousness of this infection.

The following smaller groups are now submitted in amplification of this earlier work, and, though brief, not only are they interesting, but instructive, as furnishing further evidence calculated to shed an added ray of light upon this baffling problem—more particularly upon the manner, means or point of contact. At all events, they possibly may serve to emphasize the probable contagiousness of this infection.

Group I.—Three Cases

Case 1. E. B., 22 months old on the 13th of August, was seized with fever, gastro-enteritis and vomiting at a summer-resort in Maine. She was attended by Dr. X., of Calais, who suspended his diagnosis for a week, during which time he was in attendance on a child from Massachusetts then visiting Milltown, Maine, situated 10 miles from the town. This (Case 2) was a case of infantile paralysis, diagnosed so by Dr. X. and others. At the end of a week's visits on E. B., Dr. X. pronounced her case one of infantile paralysis. Her paralysis came on suddenly, after he had been in attendance a week.

The family of E. B. returned to Massachusetts on October 13 and shortly after this the child received treatment at the hands of the Reverend Y. at his church, where psycho-therapeutic clinics are held. She had 9 such treatments, these consisting in part in massage and manipulation by the Reverend Y.

Case 3. On December 30, M. E. R., 10-month infant daughter of the Reverend Y. had her onset of fever, with gastroenteritis, eventuating in paralysis of all four extremities and of the soft palate; it had been observed though, that for a week or so past she had been refusing either to stand or walk.

The Reverend Y. at this time was treating Case 1 at his church-clinic, but, upon the diagnosis of his child's sickness being established, he discontinued treating the patient. M. E. R. finally recovered in all four extremities; however, there remained a residual paralysis of the soft palate, which caused a persistent reflex cough, because of the prolapsed uvula.

Periodic spasmodic fits of coughing that induced nausea and vomiting threatened seriously to impair the child's nutrition. As a remedial surgical measure, I removed the major portion of the uvula (under cocaine, 10-percent solution) in such a fashion as to leave the cut surface posteriorly, so that in swallowing solid foods no irritation of the raw surface occurred. The patient made a complete and uneventful recovery. This child is now a hale, hearty and robust youngster.

This group is interesting as showing the probable role of suspected carriers in third persons, doctor and clergyman, who themselves manifest no clinical features of the infection.

Group II.—Two Cases

Case 1. E. A., 19 years, on September 11 was seized with fever, gastroenteritis and vomiting. Paralysis appeared on September 13. During his sickness, which assumed a typhoidal aspect, he was taken care of a good deal by his younger sister (Case 2), L. E. A., who, on September 20, was seized with precisely similar symptoms of fever, gastroenteritis, and so on; however, although all of the symptoms were precisely as those in her brother's case, no distinct paralysis occurred. There was, however, pain and tenderness in the right shoulder, also a coarse tremor of the right hand, which lasted for a few days after the acute attack had subsided.

These cases were closely observed by Doctor X., of Dorchester, in which town they occurred. The Doctor probably would not have connected these cases had they not been so precisely similar and had he not previously heard that there was an abortive type of acute epidemic poliomyelitis.

That this border-line, or abortive, case developed after direct contact with an acute paralytic case, suggests the bare possibility that the virus may vent more or less of its paralyzing qualities on a given case, which may or may not render it capable of producing thereafter only the general acute infectious process, but without the paralysis. I offer this observation, since I have seen so many instances where "abortive" attacks have developed after exposure to frank paralytic cases; and, further, because I believe it has yet to be shown that the strain of the virus specific for human beings becomes more virulent after successive implantations. These abortive contact-cases either are to be accounted for by this theory, considering our present state of knowledge, or it must be shown that some individuals have a high index of resistance against this infection, or some natural immunity about which we know little or nothing at present. This seems to be opposed to the laboratory findings thus far, which, I think tend to show that the virus first taken from humans becomes more virulent and paralyzing upon successive inoculations in monkeys and as it becomes more specific for these animals.

Group III.—Two Cases

Case. 1. On October 9, C. C., 7 1-2 years, is reported to have had her onset of fever, gastroenteritis, and vomiting, and on October 17 her paralysis appeared, which persists in passing into chronicity.

Case 2. B. C. visited C. C. on the first day of her sickness (Oct. 9) and stayed playing with her and her toys for five or ten minutes. On the following Sunday (a week later) her mother says that the child began to sicken. On October 17, the doctor says that fever, gastroenteritis, and vomiting set in and that the paralysis appeared on October 20. This ended in complete recovery.

The families are intimate neighbors in a, comparatively speaking, wholesome section of the suburbs of Boston, though in close proximity to the Neponset River.

This case developing after direct contact with an acute paralytic case during its incubating period and later completely recovering, bears somewhat positively upon my deduction (see Group II) that the virus seems to become attenuated by repeated transfers. Still, this may yet be proved to be merely a striking coincidence; nevertheless, I offer the data, as interesting and suggestive, for what they may be worth.

Group IV.—Three Cases

Case 1. On July 24, H. B., 7 years old, was reported to have had her onset of fever, gastroenteritis, vomiting, and so on, and the appearance of her paralysis on July 27, three days later, upon which day she died. She lived near a beach in Boston and had been swimming daily at this beach.

Case 2. W. H., 4 1-2 years old, had his onset of fever, gastroenteritis, and vomiting

on July 25, and his paralysis appeared the next day. He was constantly with the first patient of this group of cases, bathing and playing with her, out of doors and in her home, before and during the early stage of her acute attack.

Case 3. R. H., infant brother of W. H., was in intimate and constant contact with him during the febrile stage of his attack, and, a week later, August 1, was taken with fever, paralysis appearing two days later. Acute paralytic attacks developed after direct contact with other acute cases.

Observe that the patient in Case 1 died during the acute paralytic stage of her attack; that the second patient lives, with both lower limbs paralyzed, and that the third has completely recovered. This adds to the facts already adduced as tending to a declining virulence of the virus after successive implantations from case to case and they are suggestive, to say the least.

Would it be too wild to hope that the alarming disease which the masses so much dread today will, in time and by repeated transfers from case to case, entirely wear out the paralyzing end of its consequences; so that we shall be left with merely an acute infectious process, with only now and then a motor involvement occurring?

Group V.—Two Cases

Case 1. W. H., 22 years old, on August 11, had his onset of fever, gastroenteritis, and so on, and became paralyzed three days later. His physical condition was good, except for pain (described by him as a "dead ache") in the lumbar and dorsal regions felt ten days before the onset of the febrile attack. Doctor Y. was treating this patient for "gastro-intestinal upset." Then, during the first week of September, his mother, who nursed him, noticing a coarse tremor, hastened to report this new development to the Doctor. On the way to Doctor Y.'s office, she visited for half an hour at Mrs. K.'s house, in the same village, and while there caressed and treated the head of E. K. (Case 2). Almost two weeks later, on the 21st of September, E. K. was seized with fever, pain and tenderness, gastroenteritis, and so on, and paralysis appeared the following day, September 22.

Here we have an instance of probable contagion by a third person who was healthy, but previously had been in intimate and constant contact with an acute case.

Group VI.—Three Cases

Case 1. On July 24, W. W., 1 3-4 years old, had an onset of the acute attack and on July 25 developed paralysis, with the usual accompaniment of fever, pain, tenderness and gastroenteritis.

Case 2. On August 2, S. W. had an onset of fever, gastroenteritis, and so on, and the next day Aug. 3, her paralysis appeared. She was constantly and intimately in contact with her sick brother.

Case 3. On August 11, J. B. had his onset of fever, gastroenteritis, and so on, and on August 13 he was totally paralyzed. He died on August 17.

This last patient had previously lived in the same tenement block with W. W. and S. W. (Cases 1 and 2), from which district the family had removed to another neighborhood June 2 (i. e., previous to the onset of the disease in Cases 1 and 2), and since the date of moving, J. B., had not visited the district nor had there been any direct contact after June 2. However, months before the W. children (Cases 1 and 2) had the infection, there had been intimate contact between these children and others on the street. The mother of J. B. (Case 3) had visited in the neighborhood, in the same tenement block where the family of W. W. and S. W. (Cases 1 and 2) lived, and between June and August had met the two paralyzed children on the street.

Here is the possibility of direct contact-infection in Cases 1 and 2 (children in the same family) and, in Case 3, of possible direct, and indirect contact-infection transmitted by a third healthy person.

To reiterate, the possibilities in this group are: (a) Direct contact in Cases 1 and 2 (children in the same family). (b) Direct contact between Cases 1, 2, and 3 playing on the street together. (c) Indirect contact inasmuch as the mother may have carried the infection from Cases 1 and 2 in one neighborhood to her own child (Case 3) in another neighborhood.

If in Case 3 the disease was contracted from Cases 1 and 2, then the incubation-period must have been more lengthy than is observed usually; it is within the region of the possible, however, that an infection contracted directly in Case 3 may have been reinforced by a further infection conveyed to the patient indirectly by his mother.

Group VII.—Three Cases

Case 1. On July 23, N. M., 5 years old, had his onset of fever, gastroenteritis, vomiting, and so on. Six days later, he was paralyzed.

Case 2. On August 24, R. R., 2 1-2 years old, had his onset of fever, gastroenteritis,

vomiting, and so on, and two days later was paralyzed.

Case 3. On August 30, P. A., 3 3-4 years old, had his onset of fever, gastroenteritis, vomiting, and so on, and three days later was paralyzed.

These three boys were, each, one of two children in three different families, the other child in each family being a girl. The boys played together, dug in the sand together, attended Sunday school together, in which school their respective fathers were teachers. They visited each other's houses and were very intimate.

These instances of direct contact-infection from other acute cases are peculiar, in that no further cases developed at the time of my investigation, though the setting would warrant our expecting an alarming development, involving their respective sisters; but this did not occur, so far as I have learned.

Group VIII.—Two Cases

Case 1. H. C., 9 1-2 years old, on August 2, had her onset of fever, gastroenteritis, and so on. Paralysis appeared two days later. It was observed that on July 28, when apparently she was perfectly well, her writing was unusually irregular and indicated that her pen was not under proper control. This is interesting, as indicating that the control of the muscles of the right arm, which was the member most severely affected, was impaired several days before the advent of the febrile stage, indeed, before the disease showed itself at all clinically.

During her sickness and confinement at home, her younger brother, J. C., who was her boon-companion, was constantly with her.

Case 2. J. C., 4 1-2 years old, was seized with fever, gastroenteritis, vomiting, anorexia, and so on, on August 5. Paralysis appeared three days later. Two or three days before the paralysis developed, he showed signs of cortical irritation, and it was thought for a time to be, possibly, an after-effect of a head injury of three weeks previously, when he fell six feet onto a wooden floor. The paralysis in his case affected the trunk-muscles, so that he was unable for three weeks to rise up from a prone position. The persistent twitching of his limbs, particularly in sleep, for the four or five days of the febrile stage indicated irritation of the cerebral cortex.

Here was direct and intimate contact during the prodromal stage of the infection, complicated by the effects of a fall and injury to the head; which may account for motor difficulty prior to the febrile attack.

Group IX.—Three Children in One Family

Case 1. M. C. N., 7 years old. Case 2. J. E. N., 9 years old. Case 3. W. D. N., 5 years old.

Case 1. The onset of fever, gastroenteritis, and vomiting appeared on August 8, the Landry's type of the disease developed, which terminated in death a few days later, with respiratory paralysis. Case 2, a brother of M. C. N., was her constant playfellow and had his onset of fever, gastroenteritis, and vomiting eight days later, his paralysis appearing on August 18, and this involved only his throat-muscles.

Case 3. The onset of fever, gastroenteritis, and so on, occurred on August 16. The paralysis, as in Case 2, appeared on August 18, and affected the muscles of the left cervical region.

Case 1 was not reported at the time of death nor is any source of infection known in this case; but, in the light of what later occurred in the brothers, who each developed precisely similar symptoms and paralysis, the cause of death of Case 1 was reported as having been acute epidemic poliomyelitis.

These cases in one family, with one death, where the contact was direct, intimate, and constant, point strongly to the contagious nature of the infection; also, the deduction offered in Groups 2, 3, 4, and so on, as to the decreasing strength of the virus upon successive transfers is again exemplified.

[*To be continued*]

Acute Anterior Poliomyelitis

By Nathaniel H. Schaffner, C. B., M. D.,

THIS disease has been in existence for centuries, in epidemic form, being classed with other forms of paralysis. In 1840, von Heine, after studying the affection carefully, separated it from other forms of paralysis. In 1870, Medin discovered its widespread epidemic appearance in different sections of the country, at which time many experts made a special study of this form of paralysis. Epidemics during the summer of 1894 have been described by Doctor Caverly, of Rutland, Vermont. He then reported 126

cases occurring in Otter Creek Valley, a limestone region of Vermont. At the same period, domestic animals, such as horses, dogs, and poultry were reported to be affected by some paralytic disease; this fact still further supporting the idea of its infectious origin.

The incidence of this disease has increased in all parts of Europe, and in Sweden, Norway, and parts of Austria it has assumed epidemic proportions. In the past twelve years, serious outbreaks have occurred throughout the United States and Canada. During 1907-8, there were about 2000 cases, with a mortality of 6 or 7 percent, while in 1910 there were reported throughout the United States, about 8000 to 9000 cases.

In this present epidemic prevailing in New York City, there have been over 250 deaths, the rest of the victims being crippled. This epidemic in New York City is known to be the most extensive that ever occurred in one city. Many cases have been reported in Illinois, but they are regarded as endemic. In 1914, there were reported 54 isolated cases in Chicago, and in 1915 there were 31 cases reported. The epidemics have been chiefly confined to the northern states, but these have been serious outbreaks.

Flexner and Lewis lately have demonstrated the infectious germs contained in the discharges; these had not, until recently, been detected by means of the microscope. This virus is difficult to cultivate outside the body.

The Etiology

Acute anterior poliomyelitis is one of the most common diseases affecting infants and children, and it occurs most commonly during the first three years of life. It is rare in early infancy and after the sixth year. It occurs in adults as well as in children, but not as frequently, and then it usually is diagnosed as a form of neuritis. It is epidemic mostly during the warm weather, attacking healthy as well as nonhealthy children occurring equally among the rich and poor. It is known to complicate or to follow the acute contagious diseases, such as scarlet-fever, measles, and even typhoid fever.

The mode of its onset is sudden and resembles that of the acute infectious diseases, and this leads us to the belief that the specific etiology is microbic in nature. The virus continues for some time in the secretions of the nose and throat in persons who have fully recovered from this disease, and may, thus, convey this disease to others, even after a long period of time Evidently it may be maintained that the transmission of this disease is effected by means of kissing, coughing and sneezing, the two latter throwing the virus into the air by which it is carried directly to the nose and throat of other individuals. Other persons, such as the parents, may transmit this disease, although they have never suffered from it but have the virus present in the nose and throat. These are known as virus-carriers. Some of the lower animals are carriers of the virus. Flies and biting insects (mosquitoes, fleas, etc.) have proven to be carriers of the virus and transmitters of it.

The Anatomic Phases

The characteristic feature in this palsy is that it affects the motor cells of the anterior horns of the spinal cord. The interstitial and parenchymatous tissues of the spinal cord show a marked degeneration, an extensive atrophy and obliteration of the cellular tissue at the height of the disease.

The virus is conveyed by the circulation; the gray matter of the anterior horns has a rich blood supply, whereby the virus can be conveyed. So great is the toxicity of the virus, that the lesion extends, in many cases, through the entire course of the motor-nerve fibers to the muscles, and may even involve the white matter of the spinal cord.

The ganglionic cells are enlarged, granular, and show cloudy swellings; the cells may be vacuolated and will not take the stain very readily. The cellular tissue becomes very much distorted and suffers complete degeneration, finally disappearing entirely.

A degenerated nerve may regenerate into its normal state, but when once its nerve cell is destroyed, it will never recover. This is the sad consequence of this disease, which deprives the extremities of their power to move, thus causing a useless, hanging member. The gray matter of the spinal cord presents a degenerated, sclerotic condition.

The histologic sheath covering the medullated nerves becomes distorted and destroyed. A neurogliar hyperplasia occurs in the affected areas; in the early stages of this disease the blood-vessels of the anterior horns of the gray matter are distended, and the perivascular lymph spaces present a conglomeration of round cells and lymphocytes, establishing infiltrated foci. The meninges of the spinal cord show small infiltrated areas, these being most marked in the lumbar and cervical regions. The infiltration follows the course of the blood-vessels. The gray matter of the spinal cord is so congested that a cross

section will show a bulging and the appearance of a red figure H.

The meninges and the gray matter of the brain are hyperemic; infiltrated foci are present, a flattening and swelling of the convolutions occur in some cases. In fatal cases, the medulla and pons show the same pathology. This process is the result of an acute inflammation, produced by the intense virulence of the infectious virus.

The lesion may be unilateral or bilateral, affecting more commonly the lumbar region

The Clinical Aspect

Clinically, there are four stages that characterize infantile paralysis; namely: the (1) onset; (2) paralysis; (3) improvement; (4) atrophy and deformity.

The onset, usually, is sudden, the symptoms ranging from a mild to a severe febrile intoxication, a high temperature (102° to 104° F.), vomiting, headache, an occasional convulsion, and, rarely, a comatose condition.

There is always pain over the trunk, but more particularly in the extremities. The pain may be aching or excruciating. This stage usually lasts from several hours to a week. It is rarely diagnosed correctly before a week or longer, because the onset of this disease resembles that of the acute infectious diseases. The symptoms may begin acutely and subside in several hours, resuming their original activity after a few days.

The second stage, that of paralysis, now begins, and the process may involve one or both legs as well as some of the trunk-muscles. The respiratory muscles may become involved. This is a sad occurrence, which may develop and prove fatal. Frequently the acute stage is wanting, a child healthy on the evening before, becomes paralyzed on the following morning, without showing prodromal symptoms; or this may occur while the child is at play, which alters the gait or the movements of an arm, depending on the location of the lesion in the gray matter of the spinal cord.

If the lesion is located in the cervical region, the symptoms will be, stiff neck, tremor and twitching of the muscles of the arms, drowsiness, delirium, sore throat, and digestive disorders. One or both arms may be paralyzed. The respiratory and abdominal muscles may also be involved.

If the lesion is both in the cervical and lumbar regions, the above symptoms are present, plus involvement of the lower extremities. The arm on one side and the leg on the opposite side are involved, or it may be the upper and lower extremities on the same side, or all four extremities may be paralyzed.

The paralysis may be a monoplegia, hemiplegia, paraplegia or diplegia. It usually involves groups of muscles (one or more), but rarely all the groups of muscles in a limb; movement is restored in the majority of cases within a few weeks or months, leaving one or more muscles paralyzed. This completes the second stage. Statistics show that 40 percent of the paralyses occur in one lower extremity; in both lower extremities 31 percent; in all extremities 14 percent; in one lower and one upper, usually crossed, 7 percent; in both lower and one upper, 3 percent; in one upper, 3 percent; other forms, 2 percent.

There seldom is pain and hyperesthesia over the affected muscles and their nerves in this stage. The sensibility of the limb is not impaired. The galvanic responses increase in the muscles that show permanent impairment in which the reaction of degeneration is marked.

The acute symptoms subside and deformity results in one of the lower extremities, with atrophy, shortening, coldness, and inactivity. The muscles are relaxed and the limb hangs helpless; the patient becomes crippled for life. When an upper extremity is involved, the bones of the shoulder protrude, with atrophy of their muscles, and there may even present a subluxation, resulting in a helpless hanging arm.

Diagnosis and Treatment

This condition is rarely diagnosed before actual paralysis has ensued. In territory, where the disease is epidemic, the physician can give a probable diagnosis in the acute onset, when the child complains of restlessness, pain in the extremities, irritability, vomiting, and muscular tremor and twitching.

The outcome rarely is fatal, about 5 percent die. But those that live are crippled.

It is hard to say what kind of treatment should be adopted, in fact, there is no treatment whereby a complete recovery, without any deformity, occurs. There are very few children that escape deformity. The initial stage is treated like any acute disease.

Promote elimination and relieve the symptoms by medical aid. In the second stage, the extremity should be supported and massaged twice daily. After one month, the faradic electric current should be employed, to maintain the nutrition in the muscles and prevent further atrophy from long disuse. If the muscles do not respond to the faradic current, the galvanic electric current should be substituted. This treatment should be kept up for months and years.

Nonoperative Gynecology

By William Rittenhouse, M. D., Chicago, Illinois

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EDITORIAL NOTE.—This is the fifth in the series of articles upon nonoperative gynecology which Professor Rittenhouse is contributing to this journal. This is a topic in which every general practitioner is interested; therefore we believe that every succeeding instalment of this series will be eagerly welcomed by every reader of this journal. Professor Rittenhouse will be glad to answer any questions, and we hope that the series may bring out many comments.

[*Continued from November issue*, p. 911.]

Prolapsus Uteri

THERE is, perhaps, no ailment for which the doctor is oftener consulted than prolapsus of the womb. Women universally dread this condition, and, with some justice, regard it as the forerunner of general impairment of health. In large cities, where vast numbers of women are engaged in occupations that involve standing for hours at a time, this ailment is exceedingly common. If I may judge from my own practice, the department-stores furnish a larger proportion of this unhappy army of incipient invalids than is found in any other occupation.

While a large majority of the cases occurs in women who have borne children, this condition by no means is limited to them. It is met with in all conditions of life and at all ages. Fortunately, in the great majority of cases, the condition is of a mild form, merely causing discomfort and fatigue, without seriously affecting the general health. Still, if the trouble is not corrected, before long the nervous system begins to suffer and invalidism and disability may gradually supervene. Danger to life is seldom involved, except in those extreme instances where peritonitis results.

For convenience of consideration, we may divide uterine prolapsus into three degrees of severity. In the first degree of prolapsus, most writers include those cases in which the uterus has descended to the pelvic floor or not as low. In the second degree, the cervix is found in the ostium vaginæ. In the third, a part or the whole of the uterus is outside the vulva, between the thighs.

In some rare instances, a considerable degree of prolapsus may exist for years and, nevertheless, produce little or nothing in the way of symptoms. Thus, some years ago, I was called to examine a bride of seventeen for dyspareunia. I was surprised to find the uterine cervix at the ostium vaginæ and immovable, evidently having been there for years. In every other respect, the woman was the picture of health and claimed never to have been sick a day in her life.

At another time, I was called to see a woman, the mother of eight children, who had complete prolapse—the entire womb being out between the thighs. In reply to my questions, she said that she had "been wearing it there" most of the time since her last child was born, five years before. In the meantime, she had done the housework for her large family. She could easily put the viscus back herself, and sometimes it would remain within the vagina for several hours. It did not seem to have greatly affected her health. She complained of the irritation and excoriation of the skin on the thighs and on the mucous membrane of the cervix, and she also stated that she was being troubled a good deal with backache; in appearance, though, she seemed as well as most women of her age.

The Uterine Supports

To appreciate intelligently the factors involved in prolapsus uteri, we must study the means and structures by which the organ is normally supported. There is considerable difference of opinion as to the part played by the various supports of the organ. I have come to the conclusion that the uterosacral ligaments are the chief supports of the uterus, so far as prevention of prolapse is concerned, because they have little elasticity, and even a small descent would put them on the stretch. Second in importance, I should put the pelvic cellular tissue surrounding the womb and vagina. The broad and round ligaments do not seem to play a considerable part in the support, ordinarily, as the uterus would have to sink quite low in the pelvis before they would be put upon the stretch.

The part played by the vagina in affording support has been much discussed, some writers holding that its support is nil, while others regard it as very important. I am convinced that its part is far from being insignificant. The vagina is capable of giving support in two ways namely: acting as a tonically contracted tube and also by the mass of its walls. As a tube, its upper third, even when normal, is so roomy that it affords but little support, but not so with its lower portion,

where the vaginal sphincter certainly helps to prevent extreme prolapse. It seems to me that anyone who will carefully study the relaxed vagina in a case of prolapse following parturition, will be convinced that a normally contracted vagina would be of great assistance in relieving the condition.

The perineal body undoubtedly plays an important part, although an indirect one, in supporting the uterus. It supports the vagina, and this in turn is part of the uterine support. This is well illustrated in cases of complete laceration of the perineum. Rectocele and cystocele are liable to follow, and the vaginal wall drags the uterus down.

Etiology

Prolapsus, in some cases, is acquired suddenly as a consequence of lifting a heavy weight, from a fall, from railway or carriage accidents, or from any similar violence; the majority of cases, however, come on very gradually. Among the most common causes, we may mention prolonged standing, stair climbing, carrying an infant or other burdens, tenesmus due to cystitis or dysentery, straining at stools (in case of constipation), coughing, subinvolution after parturition, relaxed musculature of old age, and many minor causes.

Symptoms

The first symptoms usually observed by the patient are backache, a sense of heaviness in the pelvis, a feeling, as they often express it, "as if everything were going to drop out." Gradually such women succumb to a feeling of utter weariness and disinclination for exertion, and lose all ambition. There may be headache usually felt at the top of the head. Extreme nervousness may be a feature and occasionally melancholia.

Where the prolapsus is sudden, as a result of violence, the symptoms are more acute. There may be shock, disability, great pain, and even peritonitis.

Diagnosis

The diagnosis presents no difficulty. The simplest local examination reveals the exact condition; indeed, the patient herself mostly already has made the diagnosis before presenting herself. There is one point, however, that the examiner should never forget, namely, that the amount of misplacement can not always be correctly gaged with the patient lying on her back on the examining-table.

The true condition can be more accurately determined by examining with the patient standing on her feet; the best way being to have her place one foot upon some object high enough to bring the thigh into a horizontal position. Where the uterus has become fixed, this, of course, will make no difference; when it is movable, however, it makes considerable difference. Thus, I have had cases in which the patient's description of her symptoms led me to suspect prolapsus, but examination on the table showed the uterus in nearly normal position; examination in the upright position, however, revealed the cervix descended to the ostium vaginæ. These cases generally are not of long existence.

Treatment

In discussing the treatment of this condition, it will be convenient to consider separately three classes of cases; namely: (1) those in which the uterus is freely movable and easily reduced; (2) those in which the uterus has become fixed in the false position, and (3) those in which the uterus is outside the vulva—complete procidentia.

Where the uterus is freely movable, the problem is simple, at least so far as the indication is concerned. All we have to do is, to lift the womb into its proper place and *keep it there*. The latter is not always easy, or, rather, the means for accomplishing it are not always satisfactory. But, when it can be done, the relief afforded is almost magical.

For most of these cases, I prefer a well-fitting Hodge pessary. I have heard and read a great deal of sweeping condemnation of pessaries in general, nevertheless, the fact remains that no one thing has given me more satisfaction, has pleased more of my patients, and has done more to increase my office business than the good results obtained with pessaries. Scores of times have I heard a patient say, before leaving the office, after having a pessary placed, "I feel a relief and comfort such as I have not felt for weeks."

I cannot understand the failure of some doctors to get good results with pessaries, unless it is because they have not given the subject the study that it merits. When I call to mind all the pessaries that I have removed, which had been inserted by someone else, and remember how many of them were of unsuitable size and shape, how many of them were wrongly placed, how many had produced discomfort or even ulceration of the vaginal wall, it seems to me that this little contrivance has been loaded with blame that properly should rest upon the shoulders of

those who have applied and misused it. I have found pessaries that were upside down, wrong side foremost, with the top in front of the cervix instead of behind it, and some so large that the vaginal wall was stretched tense as a drumhead; I have found pessaries pressing so hard against an immovable uterus that necrosis had occurred in consequence.

I believe that the most common mistake is, to use too large an instrument. Placing a pessary upsidedown, wrong side foremost, or in front of the cervix is, of course, the work of sheer ignorance; but, a doctor may choose too large an instrument with the best of intentions, thinking that the uterus must be kept as high up as possible. This, however, is not essential. The object to be attained *is not*, to keep the uterus very high, but *to prevent it from descending very low*. And I do not know of a single textbook that emphasizes this point as it should be emphasized. As long as doctors believe that a pessary should hold the uterus as high as the normal position, or higher, so long shall we see bad results from too large pessaries.

A normal uterus moves up and down with respiration and other body movements. To force it up as far as it will go and hold it there with a rigid supporter, is, to say the least, not natural. I make it a rule to use the smallest pessary that will remain in position, and find that such a one gives more comfort than will a larger size. A uterus an inch below its normal position will not cause its owner any discomfort; it is a *further* descent that will produce symptoms. It is this further descent that the pessary should prevent.

Placing a Pessary

If examination shows the uterus to be movable and easily lifted to its normal position by the finger, there is no reason why a pessary should not be introduced at the first interview. If it can be lifted only with difficulty or not at all, then preliminary treatment is necessary before inserting a pessary. In placing this appliance, the patient may lie either on her back or in the Sims position or she may assume the knee-chest position. It often is advised to place the patient in the latter position if the uterus is difficult to lift. I am of the opinion, though, that, if the uterus goes up with so much difficulty as to make the knee-chest position necessary, it is wiser to postpone placement of the pessary until a more normal mobility has been attained by treatment. Consequently, I always adopt either the dorsal or the Sims position.

Having pushed the uterus up with the finger, an estimate can be made of the size and shape of pessary required. This chosen, it is grasped between the index finger and thumb by the pubic, or small, end. The arch, or large end, is then lubricated and pushed gently through the vulva in the position of least resistance—usually the oblique. As soon as the instrument is wholly within the vagina, the index-finger slips up behind it to the cervix, catches the arch and, with a sweeping movement, swings it behind the cervix. It should now be tested to make sure that everything is all right. If the vaginal walls feel tense to the finger, the instrument is too large; if it causes discomfort, it is too large or of a wrong shape. The patient should not be permitted to leave the office until she can truthfully say that she is not conscious of the presence of the appliance.

The test for position should not be forgotten, for even an experienced hand may easily get a pessary wrong side foremost. This is the test: When right side foremost, the pubic end points downward (toward the feet) and its flat side rests against the pubes, while the arch points upward (toward the head) and rests in the cul-de-sac, behind the cervix. If the instrument is wrong side forward, the lower end will rest against the pubes with its point instead of its flat side, and the pressure of the point will soon cause trouble, while the arch will point backward and toward the sacrum instead of toward the head.

If the patient be a nullipara or a virgin, the introduction of a pessary may be difficult and painful. In the case of a virgin, especially, every other means of relief should, of course, first be exhausted. When the pessary is unavoidable, slow dilatation with a speculum at several sittings will render the introduction less painful.

Where for any reason the use of the Hodge pessary is not thought advisable, very satisfactory results can often be obtained by means of a firm, cylindrical tampon of elastic lamb's wool. A bivalve-speculum is introduced, a heaping teaspoonful of powdered boric acid is placed under the cervix, the tampon is pushed in as the speculum is withdrawn, and is then examined and adjusted with finger. The boric acid will keep the tampon from becoming offensive for three or four days, after which it should be renewed. A few weeks of this treatment will often produce excellent results.

The Fixed Uterus

The immovable prolapsed uterus must first have its mobility restored by treatment

before a pessary can safely be introduced. The condition is due, not so much to adhesions, as to a rigidity of the cellular tissue surrounding the uterus and vagina, the result of inflammation. If there is much tenderness, the inflammation still is in existence and all use of force must be avoided. It is best treated by a plentiful use of glycerin tampons, alternating with frequent and prolonged hot douching. If there is no tenderness and attempts to push up the uterus cause no pain, the inflammatory condition has disappeared and some force may be used.

The patient should take the knee-chest position for five or ten minutes, to drain the circulation well out of the pelvis, then with the finger the uterus should be pushed up as far as it will go without causing pain; then the vagina should be packed with the powdered boric acid and lamb's-wool tampon. The patient is ordered to return in three days, for a repetition of this treatment. In most of these cases, half a dozen treatments will restore the mobility of the uterus enough to permit employing a pessary.

Procidentia

When the uterus protrudes wholly or partially from the vulva, success is not often attained without resort to operation, and even this frequently is disappointing. In a few cases, however, palliative treatment may afford a certain degree of relief.

The prolapsus should be reduced in the knee-chest position. An effort may then be made to retain the organ within the body with a disc or ring pessary (doughnut shape) of either hard or soft rubber. This has the advantage that it can be removed for cleansing and replaced by the patient herself, as it can not be put in wrong. The hard rubber is the more cleanly and durable, while the soft rubber is the more pliable and compressible for introduction. But they often fail to hold up the uterus.

Whatever the form of the pessary, the patient should be instructed to return at stated intervals for examination, and she should be emphatically warned against the dangers of allowing a pessary to remain indefinitely. I have seen some horrible conditions due to a pessary remaining in place for years, until it has become imbedded in a mass of ulcerating tissue.

It is important to bear in mind the mechanics involved in the action of a Hodge pessary. In the language of physics, it is "a lever of the first kind," in which the weight is at one end, the power at the other, and the fulcrum somewhere between the two. The weight to be lifted is the uterus; the power is the passive resistance of the pubic bone; while the fulcrum is the long bend of the pessary resting against the floor and back of the pelvis. This can be verified by pressing the pubic end of the instrument in a backward direction, with the finger; it will be found in that case, that the uterus is being lifted.

[*To be continued.*]

Preventive Medicine and Hygiene

By Boardman Reed, M. D., Alhambra, California

In reading the fascinating biography of Dr. Robert Gray, now running in Clinical Medicine, I have been much impressed by his eloquent defense of the fruit and vegetable diet, upon which he has chiefly depended in certain cases, by the wonders he has learned to perform with the aid of sulphide of calcium and other remedies, and also by the remarkable cures he produces with the local use of epsom salt.

His good results from ripe fruit and vegetables are less surprising to me, since I myself, although over the age of seventy-four, have gained much in weight and general tone by having confined myself, for several years now, almost entirely to fruit, vegetables, and milk. It is astonishing that so many farmers, who have an abundance of all these products, buy largely of such not indispensable luxuries as meat and sugar at their greatly higher cost in these war-times, notwithstanding even that many of the authorities hold that the eggs, milk, and cheese produced on the farms are all-sufficient even for men doing hard labor, while much meat and sugar actually are contraindicated in many of the commoner diseases, especially in rheumatism, gout, eczema, arteriosclerosis, and all affections of the heart, arteries, and kidneys—and these troubles are especially prevalent in the United States, the mortality from the degenerative diseases of the circulation having doubled in the last thirteen years.

Many thousands of people are dying every year from preventable forms of disease, nearly as useless a slaughter as is now going

on in the war in Europe. It is enough to make all conscientious physicians turn sanitarians and hygienists.

The general practitioners who, under present conditions, fill the role of family physicians, come the nearest to occupying the position of salaried medical or hygienic advisers; still, many of them fall far short of achieving what they might, if they studied hygiene thoroughly. The one subject in which a very large number of them is deficient is dietetics, and, in consequence, the heads of families in straitened circumstances are everywhere struggling to supply their households with foods that they would be healthier without, or at least with far less of them. If the doctors would advise people to make large use of eggs, milk, and cheese for the proteid part of their food—which need never be more than one-fourth of the whole and should be considerably less for idle and for sedentary persons and especially for those suffering from the diseases mentioned—it would be better. If, in addition to such economic substitutions, whole-wheat or Graham bread were to take the place of the white bread eaten exclusively in most families, very little of the expensive flesh foods would be necessary. Moreover, if all the food were thoroughly chewed instead of bolted or washed down with coffee, tea or chocolate—all costly and usually highly sweetened compounds, which are not indispensable foodstuffs—life would be prolonged and consequently health be better. It seems unnecessary to repeat these hygienic axioms to physicians or to insist upon that other axiom that every healthy person should be required to drink a large quantity of pure water every day, and most of it at other times than at meals.

Lack of water and lack of fruit and vegetables at most of the meals, and lack of sufficient exercise are the principal causes of the almost universally prevalent constipation in this country. If the family physicians could be induced to do their full duty in instructing their patients in these respects, fewer patent medicines and less doctoring would be in vogue. In the end, perhaps, there would be less fees for the doctors, but they would have the satisfaction of seeing far fewer uncured dyspeptic patients.

Let me close this hygienic scold with a quotation from a book on hygiene which I have just written:

A Summary of the Necessary Health Rules

1. Let both your work and play be out of doors when practicable.
2. Some outdoor exercise, including many deep breaths, every day.
3. When you must be indoors, have free ventilation.
4. Sleep every night with either the head or whole body out of doors.
5. Meat once a day only; eggs and sugar sparingly.
6. Avoid spices and all hot condiments, except as mild flavorings.
7. Eat only when hungry and less than you could.
8. Always eat slowly and chew thoroughly.
9. Never wash down your food, but drink freely *between* meals.
10. Eat much fruit, and try to evacuate after *every* meal.
11. Cleanse your mouth and teeth after meals; certainly twice a day.
12. Maintain, always, an erect posture, especially in sitting.
13. Marry early a healthy mate and lead a chaste life.
14. Avoid alcohol, tobacco, strong tea and coffee, and all poisons.
15. Avoid worry, anger, and all excesses.
16. Get seven to eight hours' sleep every night, and make up all lost sleep.
17. Be pleasant, cheerful, fond of fun and a joke, and enjoy life sensibly.

Deep breathing each day is a wise rule for man.
Daily use of the muscles is part of God's plan.
Drink daily of water, a quart at the least,
Two or three well-chewed meals, but rarely a feast.

A tub-bath or sponging each day for the skin
Eight hours' sleep at night will help you to win.
If your duties are indoors, your play should be out
In fresh air and sunshine, without the least doubt.

"I'M GLAD HE WON"

By Charles L. H. Wagner

"I'm glad he won—I've tried and failed,
Perchance my turn will come again,
A better man I've never trailed."
This is the attitude of men,
Real men, who strive to gain the prize,
But lose to one whose strength proved best,
Such men are rare and envy's eyes
Are not in them made manifest.

"I'm glad he won." Can you, my friend,
Say that, when some one gains the goal
Which seemed but yours unto the end?
You risked your all, and lost the whole;
Have you that God-like attribute
Which smiles and says, "His will be done,
I've lost the race without dispute,
I'll try again—I'm glad he won."

Nihilism in the Medical Profession

By C. W. Canan, M. D., Orkney Springs, Virginia

SEVERAL years ago, Dr. Arthur Bevan, of Chicago, made the following statement: "Drug-treatment is useless in cases of pneumonia. The medical profession, so far as medicines are concerned, can be of no assistance in the fight against this disease. The sooner the profession will acknowledge this to the public and set to work to discover some specific to save pneumonia-patients, the better for all concerned."

Only recently, a physician who stands high in the profession of our eastern cities gave forth the following: "All physicians must admit that we have no remedies that will cure pneumonia or influence its course for the better. On the other hand, we believe that many of the drugs now employed in the treatment of this disease do real harm, and often prevent nature when she would have produced a cure. Thus, the only good a physician can do in a case of pneumonia is, the moral effect of his presence."

We are absolutely at a loss to know why a physician of ordinary intelligence could or would make any such statement as this, to say nothing of men who want to be leaders and teachers of the profession.

What practical difference can anyone see between medical men of this type and Christian scientists, mental healers, and the half-dozen other similar creeds?

Physicians who Know the Value of Drugs

Had these men said that we have no absolute specific for this disease and had stopped with that, no one would be left under a wrong impression, and it would not be necessary to challenge their statements. I can truthfully say that there are thousands of general practitioners in this country today who have treated numerous cases of pneumonia and carried them to a successful termination. These men *know positively* that drugs are of benefit in curing pneumonia. Every year one has critical cases of this disease, in which the victims most certainly would have died had they not happily fallen into the hands of a competent doctor, one who knew the indications for certain remedies and used them with nothing but good effect.

The statement that "we have no specific for pneumonia" is misleading, although correct; for, it leaves the inference that we have a specific for all other diseases. This is not true, there being no absolute specific for any disease. There is no one drug or special remedy that will meet all the indications and conditions in any disease to which humanity falls prey.

The old unscientific method of "treating the names" of diseases is largely responsible for the spread of nihilistic ideas about therapeutics. The writer has not found one nihilist among the great army of physicians who have adopted the modern scientific method of prescribing according to the actual indications present in each case and who are continually refreshing their store of knowledge of scientific therapeutics by research-work. They believe in drug-therapy, because they are, every day, getting evidence of its worth.

Drugs are as essential in the treatment of pneumonia as in any other disease, provided the doctor has learned their precise indications. The writer does not remember of seeing the good effect of medicine more beautifully demonstrated in any disease than we have in pneumonia, when the right drug has been prescribed at the proper time.

The writer does not believe that any physician who has lived up to his responsibility—by continually studying his materia medica, keeping up with the advance in pharmacy and chemistry, taking pains that his patient gets the purest and best drugs possible—ever will become a therapeutic nihilist.

With drugs of precision at our command, such as the alkaloids, a physician, it seems, is criminally negligent if he lets the life of a pneumonia-patient go out because there is no specific for that disease. We appeal to that great army of doctors who do things. These doctors will tell you that prompt and positive treatment, begun early and pushed to effect, many times will abort the disease, and always will modify its severity, in whatever case.

Some Drugs That Help

With which to do this, we have calomel, podophyllin, and the laxative salines, to clear the alimentary tract; and the sulphocarbolates to render it clinically aseptic. Aconitine, or the defervescent compound, to reduce temperature and arterial tension, and to secure free action of the skin. Or, if indicated, the pneumo-bacterins. Lobeline sulphate, to destroy toxins. Nuclein and

calcidin, to increase leukocytosis Quinine and strychnine arsenates, as tonics. Creosote carbonate, ammonium chloride, and others, for coughs. Bryonin, if there is pleuritic pain. Besides many others, if indicated.

With an array of drugs of precision like the foregoing, the doctor who says that "the medical profession, so far as medicines are concerned, can be of no assistance in the fight against this disease," most certainly has "bats in his attic"; or, if rational, does not believe his own statements.

Is it any wonder that we have so many skeptics as to drug action among the laity when assertions like those quoted are made by men (who consider themselves at least) high up in the profession?

Condemn this nihilism when and wherever you hear it announced, for it only makes it more difficult for all physicians who are working hard to save life and relieve suffering.

There is no doctor on the face of this old earth of ours better qualified and equipped to make a successful fight with disease than is the American physician.

Blood Examinations by the General Practitioner

By A. L. Benedict, A. M., M. D., Buffalo, New York

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IT is just as important and just as easy for the general practitioner to make routine blood examinations as urinary analyses. The former are practicable only, if we cut loose from ideals of thoroughness, distinguishing between common conditions and methods not requiring elaborate skill, on the one hand, and refinements adapted only to one having special skill and abundance of time, on the other, appreciating that, as with urine. feces, stomach contents, and the like, certain cases will need special services.

Some excellent men have assumed the attitude that, because they cannot become expert hematologists, they will not undertake blood examinations at all, but will refer such work to specially equipped laboratories. This sounds well but, practically, it means that they will neglect the patient's interests unless he is very wealthy, or is very poor and available in a hospital-ward for an impressive report, or unless very marked symptoms present themselves.

The physician who can test even only for albumin and sugar, and who does so as a routine measure, safeguards the interests of 75 percent of his patients, so far as urinary analysis is concerned. If, in addition, he can test for indican, acetone, and diacetic acid, and make a few simple approximate quantitative estimations, his efficiency, from the humanitarian standpoint, is probably 99 percent as compared with the best laboratory in existence. True, from the standpoint of the student of metabolism, his quantitation of urea, by developing nitrogen-gas, and his other tests are crude and inaccurate, but, from the clinical standpoint, even so enormous an error as 10 percent is not very serious, and, in fact, most of the clinical quantitations that can be carried out in a simple laboratory are much less inaccurate. For every purpose except the establishment of metabolic standards, they are good enough; far better than methods so perfect that they are applicable only to occasional cases. No sane person would advocate the general disuse of simple urinary tests by the profession generally, merely because they are not up to scientific chemical standards. Exactly the same argument applies to blood examinations.

A few cases may be cited, analogous to familiar but, now, fortunately infrequent clinical experiences regarding neglected nephritis, diabetes, and the like.

1. Young girl, excellent general health till recently, when she became pale and weak. The plausible surgical diagnosis was made that there was some obstruction to menstruation, and some operation was done. Undoubtedly, the exact diagnosis was correct, and the operation skilfully performed, but this side of the clinical picture was unimportant, and surgical intervention under anesthesia was unwise, under the circumstances. Another physician made the tentative diagnosis of leukocythemia, using a drop of fresh blood. This was confirmed by more elaborate methods, and proper treat-

ment instituted—though, unfortunately, not with success. As recent reports on the action both of benzol and the x-rays are fairly favorable, one cannot help wishing that the condition had been discovered earlier.

2. Middle aged man seen in consultation. Mitral regurgitation and moderate reduction of gastric acid fluid. Opinion that the diagnosis was not complete, that the essence of the condition was not apparent. Request to make blood examination refused by attendant. This case also proved to be one of leukocythemia.

3. Boy having Hodgkin's disease. Blood examined as a routine test. Leukocythemia found. No practical benefit derived, but some satisfaction in finding this combination of rare diseases.

4. Elderly woman, symptoms of gall-stones. Blood sample taken for routine test. Ridiculed by attendant, also routine, because previous blood samples in his cases had never shown anything interesting. In this case, besides the minute chance of discovering leukocythemia or some other essential blood disease, it was expected that the leukocytes might determine whether there was any septic condition in the gall-bladder. Instead, I was amazed to find malaria-organisms which are about as likely to be found in this region as are typhus or smallpox. There was absolutely nothing to suggest this diagnosis, but it was learned on further inquiry that the case was undoubtedly one of sleeping-car malaria, that is, one contracted during night passage through a swampy region where the anopheles is common. It was then found that the account of fever and chilly sensations, taken to suggest sepsis, corresponded with the "anticipation" of the chills in malaria. Contrast the cure accomplished in a short time by means of quinine, the active symptoms being controlled within four days, with what would have been likely to happen if this feeble elderly woman had been treated for several weeks as a sufferer from hepatic or gall-bladder disease, and then operated upon, under the belief that she had a septic gall-bladder that would not yield to medical treatment.

5. Here may be presented quite a group of cases proving to be appendicitis and other abdominal conditions of septic type. As is well known, the exact diagnosis is not always easy, or even possible, but the main point is, to determine whether surgical intervention is immediately necessary or not. The diagnosis on this point must be made promptly, and often at inconvenient times and places. Here, the inspection of a stained smear of blood usually suffices to determine a septic leukocytosis, on the one hand, or an ominously lowgrade leukocytosis, on the other. It is, of course, more satisfactory to have a definite count of leukocytes, and, still, there are many instances in which it is sufficient to be able to say that there is a great increase of white cells and especially of the polymorphonuclears; but one's time is pressing—as, for instance, when a given train must be caught.

6. I am unable to present a case of actual error in diagnosis, except as reported in the history or in comparing my preliminary with the final diagnoses, but it is safe to say that a good many conditions go by the name of neuralgia or neuritis or rheumatism or tabetic crises which really are cases of trichinosis and in which the increase of eosinophiles in the stained specimen would immediately put us on the right diagnostic track.

7. Anemia is easily—or at least readily—diagnosed. I confess in one particular—not to mention many others not pertaining to the present discussion—not to be able to learn from experience. Every little while I come across a pale patient who may be suffering from some other condition, or who may obstinately insist upon being in good health, and who does not see the clear indication for iron, beefsteak, and other forms of hematinic medication. And, on examining his blood, I find that this is in perfectly normal condition. It is of practical value to know whether our medication in anemia is, or is not, "delivering the goods." In a great many cases, any given hematinic may fail entirely. It is just as necessary to check the results of treatment in this condition as in any other, and it can be done only by serial blood examinations.

Again, the diagnosis of anemia is not sufficient in itself. We need to know its grade, whether it is of the ordinary secondary type, or whether it presents peculiarly serious features. Classifications of anemia differ in their nomenclature, and none is perfectly satisfactory. In particular, I do not believe that there is a definite single condition that may be called pernicious anemia, but rather that this term signifies an aggregate of anemic conditions in which we fail to get at the real cause or in which, for one reason or another, therapeutic measures fail. Nevertheless, we already know something of the nature of different kinds of anemia, and can, at least, distinguish simple secondary cases that recover with the relief of etiologic factors or the improvement of general hygiene, from

those that are serious and which present peculiar types of cells.

The Simple Requisites for Making Blood Tests, and the Procedure

It is unnecessary to present a treatise on the theory of blood work. Every library contains some work on physiology and on hematology, either by itself, or as a part of general laboratory-diagnosis. Even advertising-matter contains an abundance of fairly reliable reproductions of blood appearances. This article is merely intended to supplement some standard work treating on blood. The following routine method of examining blood is recommended for its simplicity and as being within the ability and available time of almost every responsible practitioner.

The requisites for these tests are not many and relatively inexpensive; to wit: A small tin box; a package of 3-4-inch square cover-glasses, not too brittle, of good quality and not of the thinnest, but rather thinner than ordinarily used for urinary microscopy; a package of slides; pine boxes constructed to hold mounted slides; gummed labels (not necessarily printed with your name); a bottle of good blood-stain of the Wright-Jenner type a bottle of Canada balsam thinned with xylol; a small tile or piece of thick glass; a bottle of distilled water; a pin or needle; a steel pen with one nib broken off; an old linen handkerchief; a microscope with an objective working within 2 or 3 millimeters from the slide; a book of Tallqist blotters, with color-scale; a bottle of alcohol.

In a small tin box, always carry with you a few cover-glasses wrapped in the paper and tinfoil from a cigarette-package; also the broken pen. Put the Tallqist hemoglobinometer-book in your side pocket. Thus equipped, you are prepared to make a fairly reliable blood examination at any time and in any place.

How to proceed: Clean the patient's ear or finger-tip with alcohol, rubbing well, to remove fat and dirt. Clean the pen and 2 cover-glasses with alcohol and wipe them dry and shiny, but letting the alcohol evaporate from the pen. Now draw a fair-sized drop of blood onto one cover-glass, press the other upon it and quickly slide them apart. This should give an evenly distributed thin smear. Next, place enough blood on an inch-wide piece of Tallqist paper to color all of the paper evenly for at least an inch square, then blot off the excess. Compare this immediately, in good daylight, with the color-scale.

Start at the extremes of color and work back and forth, so that you can say, for example, "This is much less than 100 percent, much more than 30 percent, less than 90 percent, more than 50 percent. I do not know whether it is 60 percent, 70 percent or 80 percent. Yes, it certainly is more than 60 percent, it is darker than 70 percent, lighter than 80 percent—call it 75 percent.

I have tried to show just about what are the certainties and uncertainties confronting the beginner. With a little experience, unless one is partly color-blind, it is almost always possible to make a correct reading within 10 percent of the actual, as determined by some form of spectroscope; and this suffices for practical purposes.

The slides with the dried blood-smears may be put back into the box and carried home for staining at leisure, for the smears will keep a week or more without deteriorating. Before staining, carefully examine, under a good light, both sides of the slide, to make sure that you are staining the smeared slide. This advice may sound childish, but, for the beginner, it is somewhat difficult to distinguish the smeared side. If in doubt, scratch the surface with a pin, holding the cover-glass between the eye and the light. If the pin makes a scratch, obviously it is on the blood side. Now put the cover on the tile (or piece of glass) blood-side up, and drop, or transfer with a glass-rod or pinhead, enough of the stain to cover the glass completely, but not to run over. By timing yourself and noting results, you can ascertain the optimum duration of staining for any given preparation of stain—and these vary more or less. As a rough rule, stain till the stain begins to stiffen from evaporation—about a minute. Wash off the excess, but not too thoroughly—just enough so that the glass is free from running colors. Polish the plain side of the glass, being careful not to confuse the two sides, dry over a gas jet, then mount with a drop of diluted balsam.

The slide should be freshly washed polished and dried; in fact the balsam runs better if the slide is heated. If bubbles are present they can be driven out by gentle pressure on the cover with a pin, holding so that the edge of the slide and cover are directly upward. If not enough balsam has been applied add a drop at the edge of the cover and warm, when it will enter by capillarity. If too much is present, wipe it off carefully with a bit of blotting paper, as balsam will smear an objective and stick the slides together or they will stick to anything they happen to come

in contact with. Label with name, date, and hemoglobin percentage, and add the differential count or any other facts of value.

The beginner (and sometimes one with considerable experience but not much skill) often will fail to make a good smear and stain. Usually several good fields will be found. Disregard overstained, and understained fields, those near the margin where, for some reason, disproportionate numbers of leukocytes often collect, those where the corpuscles are heaped up, those in which remnants of stain or dirt are abundant. In fact, for all sorts of microscopic work, it is well for the average worker to realize that he cannot make every object in every field recognizable, and that, if he attempts to classify objects brought to view imperfectly, he will reach incorrect conclusions. In fact, I am somewhat skeptic as to whether even the most expert can successfully carry out the idea of classifying every cell or urinary cast or other element. For example:

Some years ago, hearing a report on an interesting case of eosinophilia, I secured mounts made at the same time and by the same person, and found an average of only about half the percentage of eosinophiles. It may seem presumptuous to make such a comparison, but an eosinophile is the cell least likely to be missed and almost impossible to mistake for anything else, while a brightly stained neutrophile occasionally may be mistaken for an eosinophile; also, in a poorly stained field, various leukocytes may be missed, but not eosinophiles. The difference in results was undoubtedly due to my deliberate omission of poor fields. If the results had been reversed, the logical conclusion would have been that my counts were inaccurate.

In passing from study of text and plates to practical work, it should be remembered that the results of various stains, even of different samples of the same formula or different mounts made by different persons, or by the same, but not of high technical skill, vary considerably. The method of treating with alcohol-ether and then staining separately with eosin and methylene-blue and the various modifications of the Wright-Jenner stain that do not require this preliminary treatment, ought to give marked color contrasts, even with stains made of dyes of inferior quality and with inexpert manipulation. The formerly orthodox method of preliminary treatment with heat and use of triple stain is very likely to give feeble tints. For example, I have such a stain, made at the Massachusetts General Hospital, which never could be made to give anything like the color contrasts of plates in textbooks and, on complaining, I was assured that it was up to the usual standards.

The important qualifications of a stain are not its actual tints, but the distinct contrast of red cells, red cell nuclei (not very commonly found), the protoplasm and nuclei of ordinary polymorphonuclear white cells, the cosinophile bodies, and the protoplasm and nuclei of large lymphocytes, the small ones often showing nothing but the nucleus unless the smearing and staining are quite perfect, when a small margin of protoplasm is seen. Neutrophile granules ought to be apparent, but sometimes are not, even with methods that are practically efficient. I must confess never to have developed the technical skill to distinguish sharply in every instance, that is, in regard to every cell, between myelocytes and normal lymphocytes. I have seen reports of extreme variations in myelocyte counts, within short periods, that make me suspect that others have the same trouble and possibly do not recognize the fact. The beginner is very liable to mistake particles of stain or dirt, especially coal soot, for nuclei of red cells, or for malaria-parasites. In fact, as for all branches of clinical microscopy, it is wise to be skeptic as to unusual occurrences, and not to base a diagnosis on a single object.

LAUGHTER

LAUGHTER is the adipose tissue which softens man's point of contact with a hard world. It is his spontaneous concurrence with God's original verdict concerning the goodness of the earth, and is his insouciant challenge to fate. It does not deny the fact of the inherent pathos of life, nor does it close its eyes to the presence of the wrong.—Laughter is dynamic common sense. It is kinetic faith, hope and charity. In it, as in the poet's flower from the crannied wall, lies implicit all the wisdom of the sages and the seers.—*John E. Rosser.*

An Old Doctor's Life Story

An Autobiography

By Robert Gray, M. D., Pichucalco, Mexico

[*Continued from September issue, page 764.*]

IN preventive combat against smallpox, besides vaccination, I used the calcium sulphide and macrotoid in persons who had been exposed, and not one of them developed the disease, and there was not a single case on either of the American plantations under my system of medication, while, a few leagues away, as high as 60 percent of the first victims of the attack died where there was no systematic vaccination or preventive medication. I did not have to treat a single case of smallpox in that epidemic that was so extensive and deadly; for the reason that not one person in our plantatations had been attacked, either in my field or in that of Doctor Maldenado.

This feature of improved medication is high above and far beyond any rational estimation of price: the prevention and abortion of deadly infectious disease in the very presence and face of its most virulent epidemic course of havoc. In all humility, I think I may be pardoned for saying that, had I never done any other service to imperiled and suffering humanity, the life saved on those big American plantations alone should give me a fair score of professional credit.

And, in this beneficent work, Doctor Maldenado was my proselyte to the faith in this improved therapy. True, he at first ridiculed it; still, he was too bright a man not to admit its merits after observing for a while the incredible service it rendered me. My professional relations with Doctor Maldenado, who is a graduate of the University of Pennsylvania, are amiable and strong, although we never meet save in cases of extreme gravity, for, our offices are twenty-five miles apart and the outer limits of our fields of practice very much further. I may add here that, in 1913, he and his interesting family were exposed for a whole day and night to the fury of the most bloody battle of these revolutions fought in this department. The rebels took refuge in the house in which the family lived; however, strange to relate, not one of them got hurt. The same band of rebels was within fifty feet of my house, in another combat, a few days before the battle at the house of Doctor Maldenado. They pressed him into service as their surgeon for the nonce, their people getting hurt by scores.

The Active Principles in Aborting Pneumonia and Typhoid Fever

The abortion of pneumonia and typhoid fever, at their inception, is far simpler and easier than their cure, after development. I thus asseverate under the authority of years and years of practice, in appalling epidemics visiting us a number of times. And the active principles enabled me to render such meritorious service to people in distressing peril as other medication, under any known method of application, would not have attained. Their purity and concentrated strength, in bulk so diminutive as not to provoke a rebellious stomach the same as the great nauseating spoon was ever wont to do—there being nothing repulsive about the little clean, tasteless tablets or granules in their dressing of sugar of milk—is one reason why they have so positively discounted every medicinal rival and render preventive and abortive medication an established clinical fact that no specious skepticism can criticize out of triumphant conquests over the deadly enemies of man.

The Story of Chula Rosa Carmen

Strange experiences are not as extraordinary, in a career as eventful as mine has been, as they might seem in a more commonplace life.

One day I was called to a place, fifty leagues distant from my office, so urgently that I was importuned not to stop either to sleep or to eat, as meals would be handed me along the wayside and relays of fresh horses, ready saddled, were waiting every eight leagues, which I was not to spare. My pay, I was told, would be commensurate.

Onward and onward, over mountain, dell, vale, and rivers, the wild region of the Pacific slope of Mexico was left behind, the restless steeds flying over space wherever extra speed was possible. I had no idea what was to be done, more than that I realized that a precious life must be in peril. I dismounted in front of the portal an hour earlier than I had been expected, not, it is true, as bruised and lacerated as poor Mazeppa, for I was not tied, but of a certainty not as supple

and spry as a prize-fighter fresh upon the arena.

I found the patient to be the daughter of the house, an athletic, robust young woman, but the victim of fever, which, I was told, would certainly kill her within twenty-four hours, unless I succeeded in abating it sufficiently to prolong her life.

When I came to the bedside, her big, black eyes of sorrow met mine without twinkle of welcome. No smile of grateful anticipation played over her lips of sadness. Her lovely features wore the aspect of an unquiet mind. I recognized that I had a reluctant patient, in whose sight the undertaker would have found more favor than she vouchsafed me. Clearly, she wanted none of my assistance. Death was her fond dream of despair.

What could it all mean? One so young and beautiful was not wont to sink into the apathy of the long and dreamless sleep. I had never met the like before among the considerable number of fair patients I had treated. Without exception, they had desired to be cured and rarely obstructed my work with any whimsical foolishness. But here I was confronted by patent opposition, when so much was expected of me. I studied the girl intently, while pondering over a feasible line of treatment. She manifested impatience, that satisfied me that she was going to fight. I had much difficulty in making even an attempt at diagnosis. The girl was perfectly rational, although burning almost to a crackling with fever. She was fearfully nervous. She was suffering intense pain, yet, neither moaned nor winced.

I sat me down close up to the head of the bed and began to talk very kindly to her. I told her that her every thought and wish was as clear to my perception as they could be were they legibly printed across her forehead; that I knew she wanted no medication of mine, but desired to die; that I had ridden a hundred and fifty miles, actuated by the worthy motive of saving her life, which I meant to do, with or without her will and help; that the treatment would be gentle and considerate as that of an infant, if she was docile and sensible, but that, if she was stubborn and rebellious, the medication would proceed forcibly—if she so elected.

Then I proceeded to treat her about the same as I had recounted other treatments. An aunt of hers, a powerful, muscular woman, was to assist me. The girl offered no resistance, but swallowed the medicine presented without my having to resort to the hypodermic method.

I passed eight days and nights in that room of distress, sleeping on a lounge, at short snatches, ere the father would consent to let me go, although relief from the fever was complete in five days. The girl was dressed and up when I left. On the morning of the day, when I was to leave at noon, the father had gone to the church to have mass said. He had little more than left the premises, when the aunt rose and went out of the room, thus leaving the girl alone with me. She was dressed in a gown of the color of the rose and was seated in a rocking-chair, in front of me.

The Tragic Story of the Señorita

"Oh, doctor! my gracious aunt has given me a precious hour alone with you, so that I may not let you go away thinking that I am ungrateful. Truly, I am not grateful for your having saved my life, but, just as truly, doctor, I am grateful to you for your kindness to me more than I know words to tell. You read me with more than human sagacity. And when you know the life to which I am preserved, you will repent that you did not let me die and escape its fiendish woes.

"My mother—ye Gods of Mercy bless her! —was from your own sunny Southland of sorrow, as near an angel in human shape as ever graced the magic face of fair Mexico. My father, a hard, sordid man, is an octoroon, with Aztec blood coursing in his else pure Spanish current of life. I may do him injustice—God forbid that I should. He never abused nor crossed my dear mother, save in the awful eventuality to tell you of which I am paving the way.

"You have seen a sable-featured young man haunting the corridor like a demon of the wastes of Africa. He is the only heir to a vast estate adjoining that of my father's, and I am the only heir to my father's wealth. When we were yet little children, the two fathers plighted our troth, to be consummated when the boy attained his twenty-first year. He is now nineteen. I am one year his junior. From the first sight of him while I was yet a very small child, I ran from him screaming as I might have fled the approach of a mountain-lion; and never since has he grown less odious in my sight. He is illiterate and ignorant. Sometimes I have been forced into his presence by my father, but never have I received him as visitor otherwise. Yet, both he and my father are resolved that the nuptial farce shall be celebrated.

"My dear mother and aunt were ever partisans of mine, although not openly in opposition to my father. My aunt was many

years in a convent, having experienced a shipwreck in a love affair, but came here to her brother when all the convents were suppressed in Mexico. She and my mother were my teachers, English, as you perceive, being practically my native tongue, though Spanish and French are obedient to my uses. My mother inherited wealth in the country of her birth. The property, owing to the desolation of the Civil War, nearly worthless when she married my father who then was not a poor man, rose rapidly in value during the subsequent years; which fact, however, she concealed from my father, who knows no English and who never heeded her correspondence with her kindred. She secured her inheritance in United States treasury notes, and determined to use them, in some way, to save me from my horrid destiny.

"Barely six months ago, my mother went up yonder to the summit of the mournful hill, whither you intercepted my passage with such noble, yet, unkind solicitude.

"Well you may wonder that I am dwelling on such heart-rending theme with dry eyes and emotional composure. I have wept over the tomb of my mother and my own untold and nameless wo till the fountains of my tears at last have run dry. O God! that I could weep once again and quench the consuming fire that is seething in my tortured soul! Now you may better understand and more intently appreciate who and what I am and destined to be, unless that fatal spell which binds me so darkly may be sundered without snapping the thread of my miserable life.

"O doctor! doctor! imagine, if you have the heart even to try, my blue blood of pure white races and cultured refinement by force mated to ignorant brutality, brutality as loathsome to my finer sensibilities as the wolf is to the lamb. That horrid nightmare of wakeful life has blighted and withered every germ of the quintessence of love in my being, save for the memory of my mother and the presence of my aunt, who is goodness personified and crafty to the hoodwinking of my father in my interest—which she declares is no sin.

"You may regard me poetic, doctor! The very atmosphere that flows above in the azure vault is poetical, rife with the reverberation of the tumult and strife of the dead and nameless nations that repose beneath the consecrated dust of this enchanted land—as the conflicts raging in my lonely breast so eloquently typify. All nature is poetic and the very life of us a tragedy, as you must recognize in mine. Look away out yonder where the playful breeze is curling up the blue crystal of the Pacific tide, and you will see a splendid epic eternally rolling. How I have longed in that burning fever to have repose beneath that glorious expanse of a winding sheet, deep down among the little coral plants.

"Now, my dear doctor, I come to the critical phase of my discourse, that calls me from recital to supplication, and I am going to give you the opportunity to endear yourself to me under the weight of a gratitude that no patient ever before was obligated to requite a physician. If you have loved and lost or loved in vain, or been the victim of other immedicable despair, or carry about with you in your great pilgrimage of mercy some sorrow as poignant as ever lurked in the shadow of a weeping-willow grove, you will heed my prayer and lend me a succoring hand.

"Look at me! think of me! remember me! the victim you snatched with a medical artist's hand from the sable barge that floats beneath the bridge of death, to languish in a hell on earth, in an agony of life that might conjure pity from the very archfiend himself. Help me to modify my nameless curse in a degree to escape that dreadful union, if my lot be to go down on my knees and scrub floors all my life. Nothing on earth, not even sheer dishonor, could be so horrible. Please do not repeat that old prescription, 'Reconcile thee to what is without remedy'! Every semblance of compatibility is twisted and bent. Life for me would be intolerable. The bare thought makes me shudder and my blood run cold and curdling in its channels.

"I have no idea how my mother contemplated saving me from the fate decreed by my father by the employment of American currency, unless it was to smuggle me out of the country—a difficult and dangerous venture, against the ramifications that my father can manipulate with the authorities.

"What I now implore you to do is, to study out some way to save me, not now, but to write to my aunt, with whose affairs of correspondence my father does not interfere, while he would intercept anything sent to me.

"My father will entreat you to send a doctor here to remain in the neighborhood. Should he be one worthy of your confidence as being incapable of betraying me, please, strive to make him instrumental in saving me. My aunt will place a sum of American currency in a package of lunch she will put up for you to carry, to defray whatever expenses may be necessary to develop some method for me to escape my appalling peril."

(*To be continued*)

A Study of Aconite

By H. J. Achard, M. D., Chicago, Illinois

EDITORIAL NOTE. This is the first of a series of articles presenting a study of aconite and its alkaloids; remedies which not only have an interesting history but show signs of coming back into their own, after a temporary obscuration. In accordance with an important therapeutic use of aconite preparations, these articles will include a study of fever and of its treatment according to modern conceptions.

FOR more than one and one-half centuries aconite has been used by the medical profession as a therapeutic agent, and it has given rise to a considerable literature, the catalog of the Surgeon-General's library listing 46 books and pamphlets and 280 magazine-articles. However, the difficulty of establishing a pharmacological standard and of determining its definite action upon respiration, circulation, and the nerve centers, besides, fully as much, the occasional cases of poisoning reported, gradually led to the virtual abandonment of this potent drug, until the opinion has repeatedly found expression, within recent years, that aconite is an obsolete remedy.

Aconite has an interesting history, showing a remarkable variation in its employment. It is one of those drugs that found greater favor in the eyes of earlier clinicians than they do today, and in an editorial that has appeared in *The Medical Record*, it has been suggested that probably its indiscriminate use in a great variety of febrile conditions caused the pendulum to swing in the direction of the almost absolute neglect of this valuable therapeutic agent. However, latterly this remedy is growing in favor and is beginning to come into its own again.

Conflicting Testimony

For a scholarly review of the early and earliest history of aconite, I refer to the series of articles by John Knott, of Dublin, which appeared in 1910, during September and October, in *The New York Medical Journal*. It seems that this drug was introduced into the materia medica by Stoerck, of Vienna (1762), who employed it as a diaphoretic and diuretic in chronic rheumatism, gout, phthisis, and a great variety of other diseases. Hahnemann, after some experimentation, in 1796, recommended its use in inflammatory fevers, and Lombard, in 1835, advocated it, as an anodyne and antiphlogistic, in acute rheumatism and other acute local inflammations.

Its use as a circulatory depressant seems to date back to the middle of the nineteenth century, when Fleming called attention to the action of the drug in slowing the heart's rate, and in subsequent medical literature this action was commonly ascribed to it. Yet, according to recent, and careful, clinical observations and experimentation, any influence upon the circulation from the customary doses is asserted to be doubtful.

It was this unreliability of the tincture and other galenic preparations of aconite, and the further fact that many physicians failed to observe the effects that they had been led to expect, that gradually caused the drug to fall into disrepute or at least under suspicion. However, the positive and emphatic declaration of Professor Burggraeve as to its many virtues in the treatment of febrile conditions caused the alkaloid of aconite, both in the amorphous and the crystalline form, to be employed with increasing confidence, and these alkaloidal constituents of the plant are now in wide use by general practitioners all over the United States, as well as in other countries.

In "Merck's Annual Report" for 1909 (vol. 23), there is specifically pointed out the desirability of determining definitely the exact form in which drugs are to be used, and the fact is deplored that, in the case of aconitine, the various modifications and preparations, with their associated varied modes of action, have prevented many from assigning to aconitine its true value. It, therefore, is desirable, this authority emphasizes, that physicians should decide, once and for all, in favor of pure crystalline aconitine, the form that is most readily tested and most uniform in action. The belief is expressed that the question of dosage, which has not yet been settled, will then receive a definite solution.

As to the actual therapeutic value of aconite, it may be said that, despite many attempts to discredit it, the experience of careful physicians who have used a reliable preparation of the drug systematically and in considerable numbers of cases has led to the conviction that it is a most useful as well as very safe remedy, provided its effects are watched carefully. Indeed, Gustavus Eliot ("International Clinics," 1914, vol. 4, p. 125) asserts that this remedy is just as useful today as it ever was, and in most cases is just as good as, and somewhat safer than, other

drugs or combinations of drugs that are being used to meet similar indications. H. H. Rusby ("Reference Handbook of the Medical Sciences," 3d edition, vol. I, p. 93) declares that aconite is one of the most useful drugs in the Pharmacopeia, which acts especially well with children, and that even very small doses often give satisfactory results. Also, in the opinion of the editorial writer in *The Medical Record* mentioned above, "there is no other drug which can approach it as an efficient means of reducing high arterial blood pressure. This is a conclusion which has been reached by many observers and which should be widely recognized by the medical profession."

The Pharmacology and Chemistry of Aconitine

Aconitine belongs to a series of alkaloids that resemble each other very closely in their chemical and pharmacological properties. They comprise the alkaloids found in several species of the genus aconitum, the best-known of which are the aconitum napellus (containing aconitine), aconitum ferox (containing pseudaconitine), and aconitum japonicum (containing japaconitine). An alkaloid which closely resembles aconitine in its pharmacological action is that called delphinine.

The alkaloid aconitine is derived from the root of aconitum napellus—the root being the only official portion, although the alkaloid is present in the whole plant. The root is from three to four inches long, strongly tapering, and about three-fourths of an inch in diameter at the base. It has occasionally been mistaken for horseradish and thus been the cause of a number of cases of poisoning.

The plant was known to the ancients as one of the most potent and most feared poisons, and was employed by the Gauls as an arrow-poison. The alkaloid originally was isolated in an amorphous form by Geiger and Hesse, in 1833, but Duquesnel produced it in the chemically pure crystalline form in 1870.

When the aqueous solution of aconitine is heated, it is broken up into acetic acid and benzaconine (or picraconitine), which may again be broken down into benzoic acid and aconine, so that aconitine is acetyl-benzoyl-aconine. These decomposition-products are found in the plant, and thus in the ordinary preparations and in many of the commercial "aconitines," so that their toxicity varies very considerably.

Th. Cash and Wyndham R. Dunstan (*Brit. Med. Jour.*, 1901, II, No. 2120, Epit. p. 28) mention four commercial brands of aconitine, namely: crystallized aconitine, amorphous aconitine, pseudaconitine, and japaconitine.

The amorphous aconitine has been shown to be a mixture of several bases, its principal constituents being aconitine and picraconitine. It is from fifteen to twenty times less poisonous than pure crystallized aconitine, and corresponds to the formula $C_{33}H_{43}NO_{12}$. Pseudaconitine is extracted from the bulbs of aconitum ferox, the Indian aconite-root, and corresponds to the formula $C_{36}H_{49}NO_{12}$. Japaconitine, which is derived from the bulbs of the Japanese aconite (aconitum japonicum), corresponds, by calculation, to the formula $C_{31}H_{49}NO_{11}$. The three aconitines—that is, aconitina crystallisata, pseudaconitina, and japaconitina—do not differ in the nature but merely in the degree of their physiological action, one part of crystallized aconitine corresponding in its efficacy to 0.4 or 0.5 parts of pseudaconitine and to 0.8 parts of japaconitine. Crystallized aconitine, accordingly, is 50 percent milder in its action than pseudaconitine, while japaconitine is about 20 percent more intense than crystallized aconitine. These relative facts should be borne in mind in fixing the doses for these three alkaloids.

According to Rusby, the amount of aconitine in a first-class specimen of the root is about seven one-hundredths (7-100) of one percent. In addition, there is present a small amount of picraconitine or isaconitine and a large amount of aconitic acid in combination with calcium; resin and slight amounts of fat and sugar also are found.

It has been asserted that the wild-growing plants are richer in their supply of the active constituents than are the cultivated ones; but Rusby declares, on the contrary, that the amount of the alkaloid is increased by cultivation. This fact has been now established beyond a doubt, and it is due to the selection practiced, the seeds of particularly rich plants being chosen for subsequent crops. Schroff found that the plant is more active—physiologically and toxicologically—before flowering than after; an interesting botanical fact, which is explained by John Knott as being dependent upon the upward trend of the stored-up active principles, from root to flower, at the season of renewed vegetative activity. Nevertheless, evidence accumulates that those aconite-roots which have been partly exhausted of their starch by the growth of the stem and, thus, are hollow or shriveled, are richer in alkaloid (Rusby, *Jour. Amer. Pharm. Asso.*, 1913, v. 2, p. 686).

Unfortunately, it is a fact that the roots deteriorate in time, and, moreover, that they often are adulterated by the addition of roots from other species of aconitum. Finally there are considerable annual variations in the active principles contained in aconite-roots. One Swiss pharmacologist has asserted that in the course of four years aconite from the same source varied between 0.042 percent and 0.104 percent of alkaloidal content. The crystalline aconitine of Duquesnel occurs in colorless or white odorless permanent rhombic, plates or prisms.

The official preparations of aconite-root are: a solid extract, a fluid extract, and a tincture. The National Formulary also lists an oleate of aconite and a liniment of aconite and chloroform. Besides these, chief among the official preparations, we have granules of aconitine of various composition, a leading brand being made with the hydrobromide, each granule representing 1-800 grain, or 1-125 milligram. The advantage of using this salt lies in its ready solubility, in contrast to the pure alkaloid which is insoluble in water.

The foremost characteristics of the aconite plant, in its every part, and, thus, of its galenical preparations and, of course, the isolated alkaloids are, an intensely acrid bitter taste and the property of producing a tingling sensation in tongue and lips, followed by a sense as of numbness. Under no circumstance should the alkaloid itself ever be tasted, and a solution of it only in great dilution, and even then with the utmost caution, remembering that several cases of laboratory poisoning, in which this precaution had been neglected, are on record; a single drop of an aqueous solution of aconitine or of one of its salts, in the proportion of 1 in 100,000, when placed on the tongue being sufficient to produce the characteristic tingling and numbing sensation.

[*To be continued*]

Infections About the Rectum

By Charles J. Drueck, M. D., Chicago, Illinois

In presenting this paper, it is my desire to fix clearly in your minds the clinical pathology and the principles of treatment of the septic collections forming about the rectum, when involving different pelvic structures, and to suggest, not only what should be attempted, but also what should not be done; and this theme will include every gathering of pus, from a furuncle at the anal margin to the serious diffuse pelvic phlegmon that not only involves the rectum, but any and perhaps all other pelvic and even abdominal organs. The exact origin of the infection cannot always be demonstrated, neither can it be referred to the rectum, in every case. The treatment, varies so much that each form of infection must be considered separately.

The rectum is surrounded by loose areolar tissue, which is abundantly supplied with blood-vessels and lymphatics and which easily and frequently becomes infected or inflamed by extension from the rectum and anus or by obstruction of the circulation. There is a continual variation of blood-pressure in these tissues, depending upon the degree of fulness or distention of the bladder and rectum, even on the position of the abdominal organs. These alterations play a decided part in the development of these infections. The rectum at all times harbors hordes of infective micro-organisms, and the process of osmosis from the rectum certainly absorbs their toxins, while doubtless at times the germs themselves pass through the rectal wall by way of the lymphatics. The inflammatory reaction caused by these infections may be diffuse or circumscribed and usually goes on to abscess formation.

A perirectal abscess may be owing to one or more of several pathogenic microorganisms, the most common being the tubercle bacillus. Koch has asserted that the tubercle bacilli are never found in the rectum except when tuberculous ulceration of the intestine exists; but von Jaksch has demonstrated their presence in the stools of patients who did not have intestinal tuberculosis. Simons (quoted by Tuttle) has shown that the gastric juice, while it prevents the growth and development of tubercle bacilli, does not kill them and that, when they pass into the alkaline intestinal juice, they still retain vitality; which proves that the bacilli may pass through the intestinal canal and eventually attack the lower bowel, or rectum, without having gained a foothold in the intestine proper. Perianal and perirectal tuberculous abscesses frequently constitute the first evidence of infection, while the patient does not exhibit either then or even later any pulmonary involvement. To be sure, the infected discharges enter the alimentary

canal very easily from tuberculosis of the nose, throat or respiratory tract; it also is possible that patients may be infected from rectal tips, bougies, and, other instruments that have been used on tuberculous subjects.

The colon bacillus is the germ coming next in point of frequency to be found in perirectal infections, and this seems to assume an ameboid power as soon as any injury to the epithelial layer of the mucous membrane permits it to escape from the intestine. Vaughn has carried out some interesting studies as to why this migration of the colon bacillus is not always followed by abscess formation. He states that each bacillus is provided with a capsule that contains the toxic principle, and that this capsule is not dissolved or destroyed by the alkaline fluids of the intestine, but is broken up by the gastric fluid, thus setting free the toxins. He further considers it possible that the blood-serum also possesses this solvent property: when the bacillus enters an area with engorged capillaries, the capsule is ruptured and the toxins are set free. Colon bacilli occasionally are found in pure culture in these abscesses, but are more often associated with staphylococci, streptococci or tubercle bacilli.

Naturally, there must be a solution of continuity somewhere in the mucous membrane of the rectum or on the skin of the anus, thus admitting the infection to the deeper cellular tissues. The point of entrance and the nature and depths of the lesion determine somewhat the location of the abscess, but the condition of the local lymphatic and capillary circulation and the variety of the invading microorganisms constitute the chief factors.

Classification of Perianal Abscesses

The classification of perianal and perirectal abscess by Quénu and Hartman is the most concise and complete one attempted:

- Circumscribed inflammation or abscess
  - Subtegumentary (superficial)
    - Phlebitic
      - Submucous
      - Subcutaneo-mucous
    - Lymphatic
      - Reticular
        - Tuberous or tegumentary
        - Subcutaneo-submucous
        - Subcutaneo-mucous
      - Truncular (ischiorectal)
  - Subaponeurotic (deep)
    - Lymphatics and ganglions of the retrorectal space (retrorectal)
    - Lymphatics and ganglions of the superior pelvirectal space (deep pelvic abscess)
- Diffuse inflammations
  - Septic periproctitis
  - Diffuse gangrenous phlegmon

The diffuse forms of the infection may develop as extensions of the superficial. Subaponeurotic abscesses are above the levator-ani muscle.

There are three distinct systems of lymphatics about the rectum and anus and a study of these will give us some idea as to the direction the infection is likely to travel.

How the Infection Spreads

These lymphatics in the skin about the anus that are called the middle hemorrhoidal lymphatics travel along the perineum toward the inguinal glands or else back behind the sacrum. The deeper lymphatics pass through the ischiorectal space to the hypogastric ganglia and make up the superior hemorrhoidal system. It connects with vessels supplying the gluteal tissues through the ischiatic notch and obturator foramen. Those lymphatics around the deep rectum pass to the sacral and vertebral lymphatics.

Infection-toxins gathered up by any of these systems may be followed along the chain. When the glands retain the poison and become inflamed, passage is blocked along that particular chain, but, as the networks anastomose freely, not only with other branches of the same system, but also with deeper systems, the infection may thus be carried along other channels. In this manner, two or more distinct and separate abscesses may develop.

This intimate relationship of the various lymphatics explains the occasional development of abscesses quite distant from the rectum, but following a very simple local infection. Tuttle, speaking of this, calls attention to the fact that injuries of the anal canal may be followed by abscess of the ischiorectal fossa or in the cutaneous tissues of the buttock, while injuries deep in the rectum are likely to be followed by abscess

in the retrorectal space or deep in the thigh.

Marginal Abscess

Marginal abscesses arise at the anal margin and involve only the superficial tissues of the skin or mucous membrane. The infection may occur through a hair-follicle or Lieberkühn gland, or by way of abrasions from coarse clothes, scratching, horseback or bicycle riding, irritating toilet-paper, and discharges, either menstrual or diarrheal.

These infected areas may vary in size from that of a little acne-point to that of a pocket as large as a hazelnut. The lymphatics may carry the infection from such a simple focus to other tissues and thus a larger area become involved; but the toxin is always carried in the superficial channels and never invades the ischiorectal fossa or other deep tissues. This is a true follicular abscess, and the symptoms correspond with those of follicular abscess anywhere; a tingling, burning pain is followed by a swelling, which finally ruptures, when pus and sometimes necrotic tissue (core) escapes. Rarely such an abscess is deep-seated, but, if so, the symptoms are more severe and the whole picture resembles that of a carbuncle. Such a termination fortunately is unusual. These furuncles may be single or multiple and at times come in almost continuous crops, until they make life a torment. Usually they do not invade the rectum and, therefore, do not interfere with defecation, but the patient cannot sit or walk and must take to his bed.

Eczema, erythema, and herpes may be etiological factors in these abscesses. Thrombotic hemorrhoids and other blood clots, when near the skin, put the latter or the mucous membrane in considerable tension and, rupturing the base of the glands or follicles, open up the skin. Also, any pyogenic organisms circulating in the blood are likely to be deposited on this broken vessel and clot. There usually is a somewhat elevated temperature, but systemic complications are absent. Although this region is so richly supplied with lymphatics, both superficial and deep, the walls of the follicle prevent invasion of the deeper tissues, the abscess ruptures upon the surface of the skin or mucous membrane, and it heals without leaving a fistula, although in weak or tuberculous subjects a sinus sometimes forms.

The treatment of marginal abscesses differs radically from that of the deeper forms, in that incision and drainage frequently are followed by untoward complications. In a few instances, where the patient has learned by experience the course these infections run, he may apply early for treatment.

If the patient is seen before suppuration has actually developed, the colon should be thoroughly flushed out and then the bowels constipated by means of opium; after which he is kept in bed and put on a restricted absorbable diet, while ice-bags are applied to the anus. The area of local inflammation for 3 or 4 inches around should be painted with ichthyol (undiluted) two or three times daily, succeeding applications being put on without first washing off what remains on the skin. Very good results have been asserted to follow injections of 95-percent carbolic acid or of a strong salicylic-acid solution directly into the follicle if made in the early stage.

Where there is a tendency to recurrent crops, Hartman (Tuttle) recommends a 10-percent solution of salicylic acid in glycerin which is to be applied by the patient, himself, while after each defecation the parts should be bathed with a mild antiseptic solution.

The only time when these purely cutaneous abscesses should be incised is when a collection of pus may be evacuated by a simple puncture with a bistoury, and this cavity should be filled with ichthyol. A deeper and wider incision is liable to open the subcutaneous tissues to infection, where nature had walled them off. The x-ray seems to promise a great deal in these cases of continually recurring crops of furuncles; still, what I have seen is, as yet, so recent that it does not justify an enthusiastic report.

Abscess beneath the perineal skin or beneath the mucous membrane of the rectum is a common affection of these parts. It is practically always secondary to some other disturbances and results from infection of the lymphatics, although the abrasion of the skin or mucous membrane cannot always be found. The infection, in being carried off, results either in a breaking-down of the gland or in thrombosis of the lymph canal, and thus circumscribes the abscess. These abscesses occur most frequently in hearty, robust men, seldom in women or old people, and almost never in children, except for the tuberculous abscesses that occur very frequently in little ones four to six years old. Cutaneous hemorrhoids (the remains of former thrombi) always are subject to recurrent inflammation and infection. The injection of hemorrhoids with carbolic acid is quite frequently followed by this form of abscess. Quénu considers these abscesses to constitute a lymphangitis,

the result of infection carried by these vessels from the rectum. The inflammation is diffuse and lies beneath the skin, and produces a subcutaneomucous abscess, or, if within the rectum, a submucous abscess

The symptoms of this form of abscess vary. It may develop without any systemic involvement, no chill and but very little fever or pain occurring. The abscess opens early and exudes a thin watery pus. A small ulcerated opening is found in the skin or through the mucous membrane into the rectum. The tissues are undermined with a soft, boggy mass all around this opening, and sometimes this burrowing is quite extensive, particularly up between the rectal coats, where it frequently forms fistulous openings into the rectum. Considerable burrowing may occur before any opening is made. With all this breaking down beneath the surface, there is usually very little inflammatory reaction in the skin. In other instances, there is marked systemic reaction, a sharp chill, rapid pulse, fever, and general malaise. The local symptoms develop, less suddenly, with a feeling of fulness and indistinct soreness, which gradually localizes and becomes sharply defined. There are present all the signs of infection. The tumor, located on one side of the rectum, is hot, red or violet in color, and tender and throbbing. Cases with such an onset and showing such severe systemic invasion nearly always are caused by septic microorganisms, frequently a mixture of the streptococci and colon bacilli. The tubercle bacilli develop "cold" abscesses.

The location of the abscess somewhat determines the severity of the pain. Abscesses situated near the anus, where there is considerable loose areolar tissue that is easily distended, are much less painful than those higher up, where the various structures are firmly bound by the muscles and fasciæ. Spastic contraction of the sphincter increases the pain.

When the abscess develops above the sphincter, it may open into the lumen of the rectum and then gives no external evidence. However, digital examination will disclose a globular mass, indurated or fluctuating, according to the phase of its development.

The natural course of these abscesses is, to rupture spontaneously. If the abscess ruptures through the skin, the result is a blind *ex*-ternal fistula; if it opens within the rectum or anal canal, it is a blind *in*-ternal fistula; or, if through the skin and also into the rectum it forms a complete fistula. Very frequently in low-seated abscesses the internal opening will be found just within the anus. The distinguishing feature about these abscesses is, that they do not drain and heal like abscesses elsewhere, but continue to remain as sinuses. When the abscess develops between the layers of the rectal wall, it is called intramural.

Its constitutional symptoms are slight, usually consisting in a sense of heaviness in the rectum, painful defecation, and sometimes retention of urine. All these symptoms are present also in the case of inflamed internal hemorroids, so that, without a careful examination, an erroneous diagnosis may be made. Digital examination discloses local tenderness, swelling, and perhaps fluctuations. Bimanual palpation, with one finger in the rectum and counterpressure on the perineum, will prove of value in the early diagnosis.

Just as I urged the importance of therapeutic treatment in marginal abscesses, so I wish now to emphasize the fact that, except where malignant disease or syphilis complicate, the deep abscess does not respond to anything except surgical measures—therapeutics here are a waste of valuable time.

In many of the early cases, local anesthesia may be used. By first touching the spot on the skin with pure carbolic acid on a probe or by firmly pinching the skin between the fingers for a few minutes, sensation is destroyed enough to permit introduction of the hypodermic needle, whereupon the cocaine-solution is injected. The incision should be a generous one and extend from the anus across the full length of the abscess. Diverticuli in the acute abscesses drain well through the main cavity and need no lateral incisions.

The cavity should be thoroughly flushed out twice a day with physiologic salt-solution or a mild antiseptic. In the intramural variety in any instance where the incision has been carried through the sphincter, it is necessary to dilate the anal canal, or at least the anus, sufficiently to open and cleanse the whole wound. The intramural abscess between the mucosa and musculature of the rectum must be opened from within the anus. Dissection through the external wound upward alongside the rectum is not followed by good results. The important part is, to carry the incision wide enough to leave no possibility of a pocket at the lower end of the wound—a condition similar to what occurs when the abscess opens spontaneously.

Rest in bed is essential to rapid recovery, for most patients get along more quickly and more satisfactorily if kept in the recumbent position.

[*To be continued.*]

Vaccine- and Serum- Therapy in Everyday Practice

X. Infections of the Respiratory Tract

By W. C. Wolverton, M. D., Linton, North Dakota

[*Continued from November issue, page 924.*]

Acute Catarrhal Rhinitis

QUITE a variety of bacteria are, apparently, capable of setting up an acute inflammation of the nasal mucosa (coryza, "cold in the head"), among them being the bacillus septus (B. coryzæ segmentosus), influenza-bacillus, micrococcus catarrhalis, Friedlaender's bacillus, streptococcus, and possibly some of the staphylococci. A combination of two or more of these pathogenic bacteria is the rule in the disease under discussion, thus constituting a "mixed infection."

The person who is continually "catching cold" should have his nose and throat examined, and, abnormalities, such as hypertrophied turbinates, a badly deviated septum or septal ridges and spurs, should be given proper surgical attention, at a time when the victim is free from a cold. Proper attention should, of course, be given to the matter of proper clothing and footwear.

As regards bacterin-therapy, a combined bacterin containing the predominant organisms commonly found in this condition should be administered as early in the course of the attack as possible. A serviceable combined bacterin for the acute catarrhs contains the following: bacillus influenzæ, 200 millions; streptococcus, 60 millions; pneumococcus, 80 millions; micrococcus catarrhalis, 200 millions; staphylococcus aureus and albus, 200 millions each in 1 cubic centimeter of the stock bacterin. The dose of such a bacterin is from 0.3 mils (Cc.) to 0.5 mils (Cc.).

A necessary adjunct treatment consists in the employment of a nasal spray or douche with one of the alkaline antiseptic solutions, at intervals of about two hours, for the purpose of washing away the accumulations of nasal secretions, inhaled dust, and proliferating bacteria. The solution employed for this purpose must be *warmed* to body-temperature; cold solutions aggravate the congestion. The atomizer may be warmed by setting it, for a few minutes before using, in warm water.

The bowels are best emptied by means of a combination of calomel and phenolphthalein, these having a cholagog action which is especially desirable here, when heat production by the glandular structures (of which the liver is the greatest) has been thrown out of equilibrium.

If there is much elevation of temperature, aconitine and veratrine are indicated. Aspirin is to be given if aches and pains are a prominent symptom.

Chronic Catarrhal Rhinitis

The bacteriology of nasal catarrh is practically the same as that of the acute form, with the possible exception that the pneumobacillus of Friedlaender is a more constant factor in the chronic than in the acute form. A bacterin containing the following microorganisms is indicated: Friedlaender's bacillus, micrococcus catarrhalis, pneumococcus, streptococcus pyogenes, staphylococcus pyogenes, aureus and albus. The doses of the various organisms are about as stated under acute rhinitis, with the addition of Friedlaender's bacillus, the initial dose of which latter is 100 millions. The interval between doses, as in chronic conditions in general, is about one week.

In chronic nasal catarrh, the use of sprays or douches is especially indicated, because of the accumulation of mucus and mucopurulent material, dust, and bacteria. Only *warm* solutions should be employed, for reasons stated before. Often it is well to use a cleansing alkaline solution, and then to follow this with a spray of 1 percent of menthol in refined low-gravity liquid paraffin.

When marked improvement does not follow treatment with a stock bacterin, it is well to have an autogenous preparation made from some of the patient's secretion. In any case, treatment should be begun with small doses these gradually increased, and then continued over a long period of time, before abandoning this form of treatment.

Ozena

In fetid atrophic rhinitis—this distressing condition—an organism known as the bacillus of Perez is very much under suspicion as being the causative agent. A good deal of experimental work is being done by a number

of investigators with bacterins prepared from this germ, and encouraging results have been reported. It is to be hoped that a more extended trial will prove the bacterin to be a reliable remedial measure.

Tamponing the nasal fossæ with cotton saturated with a 1-percent solution of iodine in glycerin exerts a stimulating effect upon the atrophic mucosa. Oily sprays are useful for loosening the crusts.

Infections of the Nasal Accessory Sinuses

Infections of these cavities, in my experience, are much more common than is generally believed, and this is true especially for the antrum of Highmore and the frontal sinus. These sinuses, communicating, as they do, with the nasal fossæ, frequently become infected during the course of an ordinary coryza or as a complication of influenza. A spray containing adrenalin, 1 : 4000, with cocaine in 2-percent strength, usually secures drainage of the infected sinus, by causing a shrinking of the mucosa around the orifice of the cavity. However, if this combination fails to afford adequate exit for the pus, the opening must be enlarged by proper operative procedure. Ofttimes, when the antrum is infected through the root-canal of a carious tooth, the extraction of the offending tooth will give sufficient drainage.

The bacteriology of sinus infections is that of the primary infection of the nasal cavities, in acute cases; in the more chronic infections of the accessory sinuses, the same etiologic agents are present, plus, occasionally, such other bacteria as the bacillus pyocyaneus, the pseudodiphtheria-bacillus, and colon-bacillus.

When a stock bacterin containing the organisms named fails to bring about improvement, a bacteriologic examination of the nasal secretion should be made, and, if any unusual pathogenic germ is discovered, a corresponding stock or autogenous bacterin should be tried.

In some resistant chronic antrum infections, injection of the cavity with Beck's bismuth paste generally proves of value. However, in using this remedy in closed cavities, one always should be on the lookout for bismuth poisoning. If any signs of this trouble make themselves manifest, the paste must be removed from the antrum by injecting warm olive-oil, when the symptoms will subside.

Acute Bronchitis

Infections of the bronchial passages usually are due to some combination of the following bacteria: pneumococcus, streptococcus, micrococcus catarrhalis, and staphylococcus. A combined stock bacterin, then, containing the varieties of pathogenic germs just named is indicated in the treatment of acute bronchitis. The proper dose of each variety of bacteria is the same as that of the same germs as heretofore given when considering acute infections generally. The interval between doses of the bacterin should be from twenty-four hours to four days.

Next to the bacterin-treatment, the best single remedy I have found for this distressing ailment is, the inhalation of steam charged with the vapor of compound tincture of benzoin. The relief obtained from this measure is immediate and gratifying. About 1-2 dram of the benzoin tincture is poured into the water boiling in a "croup-kettle" or, lacking that, a tea- or coffee-pot with a small spout. The steam, as it escapes from the spout, is heavily charged with the medicament and is to be inhaled deeply, care being taken that the face is held far enough away from the spout to avoid scalding. This inhalation of medicated steam may be repeated every few hours, as required.

At the onset of an attack of acute bronchitis, it is well to empty the intestinal tract thoroughly by means of what my German-born druggist terms a "42-centimeter shell," or, in other words, a capsule containing 3 or 4 grains each of calomel, sodium bicarbonate, jalapin, and phenolphthalein. This may sound like a "shotgun" mixture; but, as a matter of fact, it is a very fine combination, useful in a great many conditions besides the one under discussion; and it rarely causes griping.

If any considerable degree of fever is present, veratrine is the indicated remedy, because of its relaxant action.

For the "dry" stage, camphorated tincture of opium and tartar emetic (gr. 1-12 to 1-8) in bitter-almond water, with a little fluid extract of glycyrrhiza, makes a very efficient cough-mixture, and is quite palatable, besides. A little later, when a stimulating expectorant is required, a No. 0 or No. 00 capsule filled with a mixture of equal parts of oil of santal and oil of eucalyptus, given every four hours, is a remedy that I have found to give great relief.

One more remedy should not be overlooked in discussing the medicinal treatment of acute bronchitis, and that is, a full dose, before retiring, of the powder of ipecac and opium, followed by a hot drink. This is a time-tried remedy and undoubtedly is

of great value when taken early in the attack.

Chronic Bronchitis

The bacteriology of chronic bronchitis is the same as in the acute form of the disease, plus the bacillus of Friedlaender. The bacterin administered should contain the varieties of bacteria mentioned under "Acute Bronchitis," and, in addition, the last named bacillus. The dosage should be somewhat—say, a fourth—larger than in the acute condition; while the interval should be longer, as in other chronic conditions. Here, the intervals between inoculations should be from five to ten days. The dose is to be increased gradually as the interval is lengthened.

Inhalations of medicated steam, once or oftener, each day, are of value. Compound tincture of benzoin may be used with which to saturate the hot vapor to be inhaled before retiring, because of its soothing action. During the day, oil of pine-needles, terebene, and oil of eucalyptus may well replace the benzoin, for their stimulating and antiseptic effect on the bronchial mucosa.

Equal parts of a mixture of the oils of santalwood, cubebs, and copaiba may be administered, three or four times daily (after meals and at bedtime), in dosage of a No. 00 capsuleful of the mixture.

Tartar emetic, 1-12 to 1-8 grain, constitutes a fine expectorant when the secretion is thick and viscid.

Asthma

In discussing the treatment of asthma, we may as well say at the start that we do not regard this as an infectious disease. However, if upon a highly irritable mucous membrane there be implanted a mixture of various pathogenic bacteria of greater or less virulence, it is logical to conclude that the primary condition will be aggravated thereby. Hence, the employment of a mixed stock bacterin identical with that recommended under "Chronic Bronchitis." The dosage and interval likewise are the same in the two conditions.

During the interval between the asthmatic paroxysms, a careful examination of the nasal passages should be made, and if anything in the way of a nasal stenosis exists it should be remedied surgically. The heart, also, should be carefully examined, and the blood pressure determined. If high blood pressure exists, some form of iodine-therapy should be employed. For the paroxysm, a hypodermatic injection of a combination of morphine, atropine, and nitroglycerin gives quick relief. Inhalations of the benzoinated steam, as referred to under "Bronchitis," are of value.

Hay-Fever (Pollinosis)

The reason for the employment of bacterins in the treatment of hay-fever is the same as that given under "Asthma." The real etiologic agent is the pollen of various plants, ragweed, goldenrod, roses, among them. There are now obtainable "vaccines" or "pollen-extracts" prepared from the pollens of the plants just mentioned. The administration of this "pollen-vaccine," best given as a combined vaccine, should be begun a month or six weeks before the date which the patient knows from sad experience will mark the onset of the attack. The vaccine is given at weekly intervals. It is my custom to administer a combined bacterial vaccine simultaneously with each dose of the pollen-vaccine. The proper bacterin is that described under "Chronic Bronchitis" and "Asthma."

In the interval, either spring or autumn, a careful examination should be made for any existing form of nasal stenosis, and, if found, be remedied by the proper surgical procedure.

[*To be continued*]

"VANITY"

COME, oh! my young brother bucks, let us be vain together. Let us join hands, and help each other to increase our vanity. Let us be vain, not of our trousers and hair, but of brave hearts and working hands, of truth, of purity, of nobility. Let us be too vain to stoop to aught that is mean or base, too vain for petty selfishness and littleminded envy, too vain to say an unkind word or do an unkind act. Let us be vain of being singlehearted, upright gentlemen in the midst of a world of knaves. Let us pride ourselves upon thinking high thoughts, achieving great deeds, living good lives.—*Ik Marvel.*

What Others are Doing

CHLORINE, THE BEST PARASITICIDE FOR CLOTHING AND DOMICILE

According to Sigmund Fraenkel (Proc. Soc. Phys. of Vienna—*Muench. Med. Woch.*, 1915, No. 18), chlorine has been found best for ridding clothing and the living-quarters of parasites, particularly lice. His directions are as follows:

Into a capacious wooden vessel (tub, barrel; but any glazed receptacle will serve), pour the desired amount of water, and then for each 100 liters add 1 kilo of chlorinated lime. Stir well and cover tightly. Next, a short time before using, stir in 500 Cc. of full-strength crude hydrochloric acid. Impure chlorine gas is set free, part of which remains dissolved in the water. Both will kill the parasites. Wool and cotton are not injured by it. The liquid may be sprayed over walls and flooring. [Chlorine attacks many colors, various metals, and spoils wall-paper.—Ed.]

Incidentally, it may be stated in this connection that, according to G. Walker (*loc. cit.*, p. 630), a dry temperature of 55° C. (131° F.) infallibly kills lice in from one to two minutes, while at 50° C. (122° F.) they will die inside of ten minutes. A temperature of 35° C. (94.5° F.), named by some, is too low. The nits are killed at 60° C. (140° F.), through coagulation of their albumin. The coldest weather of winter will not destroy the lice, although rendering them inactive.

CONDITIONAL STERILIZATION OF WOMEN

The wife of a pastor had given birth to five children in as many successive years and under conditions that further pregnancies probably threatened her life or her sanity. Sterilizing was imperatively indicated, yet, the woman did not wish to preclude entirely the possibility of again having a child. Dr. W. Stoeckel, of Kiel, solved the problem by effecting an extraperitoneal transposition of the tubes.

Stoeckel laid open the inguinal canal, as in the Alexander-Adams operation, cutting through the perineum and drawing out the tubes, which latter he had then imbedded between the abdominal muscles and the anterior fasciæ of the andominal wall. The tubes were "wiped" or "fished" out through the inguinal canal by means of a small long-handled applicator.

SPIROCHETES AS PATHOGENETIC FACTORS IN DYSENTERY

Under another heading, we discuss a paper by Martin Meyer on lamblia as a cause of dysentery, and reference is made to the presence, in a patient's alvine discharges, of spirochetes, these disappearing afterthe administration of emetine. In that connection, the author recounts how Le Dantec was the first one to describe (*Compt. Rend. Soc. d. Biol.*, 1903, p. 617) what he considered spirochete dysenteries.

There still does not seem to be unanimity as to the real role of enteric spirochetes (a subject discussed at length by Neumann and Mayer in their "Tierische Parasiten," 1914), but one fact established is that under certain conditions their multiplication is favored without their being actively concerned in the disease-process. This has been demonstrated, for example, by Escherich, who (1884) saw this occur in cholera-dejecta. The same thing Mayer believes to have been true in the case described by him. In this patient's stools, the spirochetes (numerous), he says, were very fine filaments and presented two or three open spiral turns.

THE HARRISON LAW: A TEXAS EXPERIENCE

I want to congratulate the brother from Michigan [March, p. 264], for writing that article upon the Harrison law. What he has said in regard to the doctors being placed at the mercy of an inspector is only too true. I believe it is in the power of every inspector, should he choose to do so, to ruin any physician, if one has prescribed narcotics at all.

It matters not how carefully the physician has complied with the requirements he can

be arrested, tried before the commissioner, and, if dismissed by the commissioner, that inspector still has the power to drag him before the grand jury. He may be discharged by the jury, but the inspector can have him arrested on another charge and put him through another expensive course; and thus he can continue until his revenge has been satisfied. The inspector is under no expense, and he can continue a fight against you *ad libitum*.

I know a druggist who gave a doctor six hyoscine-morphine tablets in a case of extreme emergency. The doctor had sent for blanks, but had not received them; so, he wrote on a prescription-blank and stated that he had sent for federal blanks, and that this was an emergency-case. It has cost the druggist $350, and the case has not yet reached the federal court. I do not know what compromise the doctor made. He was arrested, but I think the case against him was compromised. Two years ago, this particular inspector had some personal trouble with the druggist.

The lawyers here tell the doctors not to displease an inspector, since they are at the latter's mercy.

I think that the object of the Harrison law is a good one, on the whole, but I want to show what harm it can work on an innocent man, should an inspector see fit to bully him.

"Texas."

VITIATION OF TYPHOID BLOOD TESTS AFTER PROPHYLACTIC VACCINATION

The existence of leukopenia and of an easinophilia in suspected typhoid fever is of no diagnostic value if the patient has previously been vaccinated against that disease. This is shown by the investigations of F. Schneider, of Berlin (*Berlin. Klin. Woch.*, 1915, No. 15), who found that within a very few days after antityphoid vaccination (the third) in soldiers both the conditions of the blood mentioned are present, and that these continue for weeks or even months.

ANIMAL CHARCOAL AND IODINE FOR TYPHOID-CARRIERS

From a recent number of the *Bulletin* of the Chicago Department of Health, we learn that "Typhoid Mary" has come to Chicago. This much discussed and pitiable personage presents as peculiar a problem in this city as she has in New York. She is well, not sick at all, but she is a danger to every community in which she lives, especially since her only occupation—the only trade that she knows—is that of cook.

The problem of dealing with the typhoid-carrier is not an easy one. Thus far science has not succeeded in discovering any method of treatment that will make these people safe to associate with; consequently, every suggestion that possibly may help to find such a remedy should be considered. Here, for instance, is one such:

Doctor Kalberlah, writing in the *Medizinische Klinik* for May 23, 1915, reports how he successfully cleared the stools of typhoid-bacilli in 5 such individuals, and the remedies employed by him were animal charcoal and tincture of iodine. Readers of this journal will remember that we have printed a number of abstracts from our German exchanges showing the vogue now enjoyed by animal-charcoal for curing all kinds of gastrointestinal affections. In the case of typhoid-carriers, however, Kalberlah shows that animal charcoal alone is not sufficient to rid them of their infesting parasites, but a teaspoonful of this substance, taken from three to five times a day, and at the same time from 7 to 15 drops of tincture of iodine in a glass of water after eating, and at the same intervals, proved effective in every instance.

We hope that some of our readers who have cases of this kind will experiment along these lines and make report on the outcome. No harm can come from such a course, while success would be a boon. Only, one must make sure of the quality (U. S. P.) of the animal charcoal from a responsible manufacturer, and procured freshly, in original sealed container, from a jobber.

ABORTIVE TREATMENT OF GONORRHEA

Without reference in this place as to the period when abortive treatment of gonorrheal urethritis still may prove effective, Carl Bruck, in an exhaustive treatise on the subject, describes (in *Ther. Monatsh.*, Jan., 1913) a method of aborting gonorrhea that has given satisfactory results in Neisser's clinic for genitourinary diseases. Proceed as follows:

Employ a Neisser syringe holding 12 mils and fill it with a 4-percent protargol solution to which 5 percent of antipyrin has been added, and make the injection in person. Do not remove the syringe immediately, but press it firmly in the meatus for five minutes, in order that the fossa may also be well bathed. Repeat this on the same day, and again,

twice, on the next, provided there is not too much irritation; but that is rare. Then await results. Spitzer proceeds similarly.

Bruck also mentions favorably Tomasczewski's abortive treatment: Place the patient on his back, spread the urethral lips, fill the fossa navicularis with a 2- or 3-percent solution of silver nitrate, or, with a protargol or hegonone solution of from 10 to 20 percent; repeating this several times. Then thoroughly swab the fossa and also the anterior urethra with a solution of hegonone, 1:3000, or of silver nitrate, 1:10,000 to 1:5000.

In the further course of the treatment, irrigations under pressure, with resultant expansion, are stated to deserve far greater attention than is being accorded them; the dilating irrigators of Wossidlo and of Dreuw being mentioned as serviceable

EYE AFFECTIONS

At the Eye-Clinic at Gratz, R. Rauch (*Arch. f. Ophth.;* cf. *Ther. Monatsh.*, Aug., 1914) made use of the new mercuric preparation embarin in a case of luetic affection of the eye. Every other day he instilled into the gluteal muscle 1-2 to 1 mils of the preparation, making altogether 20 injections. Absorption was rapid, neither rise of temperature (as a rule) nor pain resulted, and the remedy was well borne; beneficial effects were promptly observable. Hygiene of the mouth and the appearance of toxic symptoms were not neglected.

VINCENT'S ANGINA

Vincent's angina, otherwise known as pseudomembranous angina and as ulcerative tonsillitis, is a rather uncommon disease of the throat, the nature of which is probably unrecognized in a large percentage of cases. In many instances, it is diagnosed as diphtheria; more rarely, as syphilis. It usually occurs in childhood, but is occasionally seen in adults.

Vincent, who originally described this disease, found two organisms, believed to be specific, one a fusiform bacillus, the other, a spirillum.

According to A. G. De Sanctis (*N. Y. Med. Jour.* Nov. 6, 1915, p. 953), there is a possibility that cancrum oris and Vincent's angina are closely allied, having a common etiologic cause, the latter disease, however, being much milder than the former. If the throat of a person suffering from Vincent's angina be examined, a false membrane will be found, usually upon the upper portion of the tonsil. Occasionally the uvula, soft palate, cheeks, gums, and even the larynx may be attacked; but these sites are relatively uncommon. This false membrane is due to superficial necrosis of the mucous membrane; it is of a grayish-white, yellowish-green or dirty-brown color. When removed, it leaves behind a raw, bleeding, ulcerating surface. These ulcers vary from the size of a pea to a 25-cent piece, and they are from 1-8 to 1-2 inch deep, irregular in shape, and enclosed in red, inflamed areas.

The symptoms vary in severity. As a rule, there is a slight elevation of temperature, associated with headache, chilliness and general lassitude, together with occasional attacks of nausea and vomiting. Swallowing is painful, and in most cases the cervical and maxillary glands are enlarged, particularly on the side of the lesion.

Prognosis is good, unless the larynx happens to be involved. There is a tendency to chronicity, and the disease is likely to recur. According to De Sanctis, the disease is neither contagious nor infectious.

Treatment consists in the application of the ordinary antiseptics used in other forms of sore throat, such, for instance, as hydrogen peroxide, Seiler's solution, potassium chlorate, silver nitrate, and the like. Neosalvarsan has been applied locally to the lesions, with good results, and De Sanctis recommends its use.

[It seems to me that Doctor Dakin's new antiseptic, para toluene sodium sulphochloramide (Chlorazene) would give excellent service in this condition. Also, calcium sulphide should not be forgotten; push to saturation.—Ed.]

SPECIFIC TREATMENT OF TYPHOID FEVER WITH TYPHOID-BACTERIN

Goldschneider and Aust report having employed injections of the killed typhoid-bacteria in 57 moderately severe but uncomplicated cases of typhoid fever, the material being Marx's bacterin, 500 millions to the mils (Cc.) This was given in doses of 1-2 to 1 1-2 mils (Cc.) 'The authors describe (*Deut. Med. Woch.*, 1915, p. 361) their procedure and the course of the attacks, concluding their report with these observations: The subcutaneous injections cause fewer by-effects than in sound persons. The curative effect seems hardly worth noting. Inasmuch, however, as a certain influence upon the course of the

disease undoubtedly was observable, further trials with the bacterin do not seem without promise, but better results may, perhaps, be obtained by trying a small dose more frequently repeated.

A TREATMENT FOR PRURITUS ANI

One of the most damnable conditions, one that may be a veritable thorn in the flesh, is pruritus ani, an affection that all too often resists the most diverse and ingenious attempts on the part of the physician. In those cases in which the underlying cause of the pruritus can be determined, this objectionable complication usually will yield to appropriate treatment; but, in those reasonably frequent cases of socalled idiopathic pruritus, both physician and patient are likely to despair.

In the *Johns Hopkins Hospital Bulletin* for August, Dr. Harvey R. Stone reports on some experiments with dogs, in which alcohol injections were made in the anal region, for the purpose of determining the possibility of relieving, by this method, refractory cases of pruritus. It was found that alcohol injections will produce complete local anesthesia; however, if introduced deeply enough, so as to come in contact with the motor nerves, sphincter paralysis and resultant incontinence are produced by it. If the alcohol is introduced rather superficially—that is, within the skin itself—superficial sloughs are caused. Yet, it is quite possible, and not very difficult, to produce anesthesia without sphincter paralysis or skin ulceration resulting; this effect being brought about by introducing the needle through the skin, but injecting the alcohol immediately under the skin, and never more deeply.

On the strength of these experimental results, the method has been tried in the dispensary of the Johns Hopkins Hospital and in private practice in 17 cases, during a period covering less than two years. With the technic employed, not much pain is associated with the injection; some soreness is felt during the first twenty-four hours, but after that the only subjective sensation experienced is numbness. The itching is immediately abolished and the area injected is largely and sometimes completely anesthetized. Thus far, in no case has the slightest evidence of disturbance appeared in the action of the sphincter. There were several instances in which small superficial sloughs resulted, but these all healed promptly and without difficulty. They were caused by faulty technic, in placing the alcohol too near the surface—a fault due to the careful avoidance of too deep an injection and to the fact that the folded, irregular surface of the skin about the anus renders it much more difficult to keep the injections at a uniform depth than would be the case were the surface level. How long this freedom from itching will last is not known. One patient has returned for a second injection, eight months after the first, for a recurrence of itching. All of the patients seemed much gratified by the results obtained, so far as it was possible to follow them.

The manner of injecting is quite simple. The area in which the itching is complained of is carefully noted from the patient's description; indeed, it usually is well marked out by its characteristic appearance. Under general or local anesthesia, the injection is then made so that this whole area is anesthetized. In nearly all the cases reported, a local anesthetic has been employed, this being usually novocain (1 percent) or quinine and urea hydrochloride (1 percent). This form of anesthesia has proven quite satisfactory.

The syringe is filled with alcohol (95 percent), the usual fine hypodermic needle being used for the injection. The needle is carried entirely through the skin, vertically, and then is inclined sharply to the side, so that it lies nearly parallel with the skin surface. When the needle is properly inserted into the subcutaneous fat, it can be moved fairly freely from side to side under the skin and can be felt moving by a finger placed over it. If this freedom of movement is lacking, the needle probably is engaged in the corium, and then, if injections are thus made, sloughs may be expected to result. With the needle properly placed, the whole area involved is injected, enough alcohol being used to underlay the area thoroughly. The injection may be carried up to the margin of the anus, but the author has never injected the anal canal itself, nor has he so far had reason to believe that this would have improved results. Of course, before any injection is made, the skin is cleaned as for any other operative procedure.

ELIMINATION OF METABOLIC PRODUCTS IN NEPHRITIS. INTRAVENOUS USE OF DIURETICS

Diuretics of the theobromine and theocine group not merely induce augmented excretion of water in nephritides, but these drugs cause increased elimination of nitrogenous

products of anabolism as well, according to P. Erdélyi (*Deut. Arch. f. Klin. Med.*, 1913, Jan. 16; through Zentrabl. f. Bioch., 1913, No. 21). In addition sodium chloride also is more freely excreted.

For these reasons, the author advises resorting to these diuretics, in large dosage, in the earliest stages of nephritis, even though edema has not yet appeared, so as to obviate nitrogen accumulation. In order to secure speedy and effective results, the intravenous method is recommended as preferable.

The inanition usually preceding uremia is the cause, according to the author, of the increased appearance of ammonic nitrogen in the urine; and this latter phenomenon he considers a premonitory sign of uremic attacks.

BACTERIN-TREATMENT OF CHRONIC INTESTINAL STASIS

In an interesting study of chronic intestinal stasis—or intestinal toxemia, as it is also known—G. R. Satterlee (*Amer. Jour. Med. Sciences*, Nov., 1916, p. 727) tells of some very interesting results obtained by the use of bacterins prepared from the prevailing type of colon-bacillus isolated from the patient's feces.

Doctor Satterlee injected from 25 to 50 million dead organisms as an initial dose, increasing gradually at from four- to seven-day intervals, the maximum dose being 300 million bacilli. After this treatment in typical cases of chronic intestinal toxemia, a reaction was experienced usually within twenty-four hours. This reaction consists in the appearance of a small, reddened, indurated area at the point of injection, slight headache, giddiness or nausea, increase of neuralgic or myalgic pain, and occasionally increased peristalsis. These symptoms are followed by marked relief within forty-eight hours.

Doctor Satterlee tells of some very promising results following this treatment. In one patient suffering from enteroptosis and chronic intestinal obstruction, with vomiting of duodenal contents, the bacterin-treatment checked the vomiting after ordinary methods had been tried and failed. Two other patients, needing, but refusing, operation for intestinal obstruction, have been kept on their feet. One of these suffered from adhesive appendicitis, the other (operated upon later) presented a strong band of adhesions across the ascending colon and adhesions between the uterus and rectum.

Another patient who for years had suffered from intestinal toxemia, with profound depression amounting to insanity, for two years, reacted violently to the coli-bacterin, and after a month and a half of treatment was able to leave the hospital in good mental condition.

Satterlee, of course, does not advise the use of bacterins as a substitute for indicated surgical intervention.

CARREL'S METHOD OF USING CHLORAZENE

Carrel is employing both Dakin's hypochlorite-solution and his newer antiseptic, the paratoluenesodiumsulphochloramide (chlorazene), in his remarkable and oft-described surgical work at Hospital 21, Compiegne, France. The former, being cheaper, is used more largely, but the latter is employed and recommended. (Cf. the article by Carrel and Hartmann, in *The Journal of Experimental Medicine* for Nov. 1, 1916, p. 430.)

In making applications of these antiseptics, Carrel endeavors to keep the entire infected wound surface moist with the solution. This he effects by means of intermittent currents forced into the utmost recesses of the wound through small red-rubber tubes, closed at the distal end, but having several small lateral holes for the escape of the liquid. In a narrow wound, one tube may suffice, but in a large wound with pockets several may be required. In fracture-cases, the ends of the tubes are placed among the fragments. These tubes are connected, by a branched glass arm, with a larger supply-tube attached to a glass reservoir. In the case of small wounds, the solution can be injected through the tubes with an ordinary glass syringe.

After the tubes are properly placed, they are supported by gauze packing, the surgeon assuring himself that the liquid can come into contact with every part of the lesion. The wounded part is surrounded by a cotton lined compress or bath-toweling, as a protective dressing.

Continuous irrigation is not practiced, but the solution is let into the wound at regular intervals (every two hours day and night), just enough being admitted to keep the inner dressing wet. Carrel employs Dakin's hypochlorite solution in 1-2-percent strength or one of 1 percent of paratoluenesodiumsulphochloramide (chlorazene). Since the two solutions have equal germicidal power, it is clear that with the chlorazene, in the concentration employed, a solution of much greater potency

is available. Yellow vaseline is smeared over the surrounding skin surface when the hypochlorite or a very concentrated chlorazene solution is employed to prevent irritation of sensitive skins.

It should be remembered that the hypochlorite may not be used in a solution more concentrated than 0.5 percent, stronger solutions invariably causing irritation. Also, the hypochlorite must be applied at shorter intervals, since its antiseptic action (while intense) is of less duration. In only one respect has the hypochlorite-solution any advantage —it breaks down necrotic tissue (if present) more rapidly than will the chlorazene. Under this treatment, the bacteria rapidly disappear from the wound and the rate of clinical improvement is remarkable.

The bacterial condition is determined from day to day by the microscopical examination of smears taken from different portions of the wound. As soon as all bacteria have disappeared, or there are only two in the field, Dakin applies dressings moistened with a 0.2-percent solution of chloramine (chlorazene), in order to maintain the aseptic state. He also uses, under certain conditions, a cream containing chlorazene in neutral sodium stearate. The parts are not brought together by sutures, but by broad adhesive strips, so made as to exert lateral pressure and thus close the deeper structures. Often these strips are provided with "hooks" and lacings permitting gradual closure and adjusted pressure.

When a wound has been rendered sterile in this way, it heals with wonderful rapidity, while under such uniform conditions it is possible to express the time of repair by a definite formula (devised by DuNouy, of the same hospital-staff) predicated upon the size of the wound and the patient's age.

Carrel's method of treating wounds is believed by many surgeons to be revolutionary. The introduction of chlorazene, solutions of which can be prepared in a few moments by any physician or nurse (to prepare the hypochlorite solutions requires hours and even days), has made the Carrel method available to anyone.

TREATMENT OF HEMORRHAGE WITH NORMAL BLOOD-SERUM

H. H. Forbes (*Ann. Otol., Rhin., & Laryng.*, Mar., 1916) states that an important point in operative work is that the prophylactic value of serotherapy is obtained in from twenty-four to forty-eight hours after the injection, and that it persists for at least three weeks, sometimes lasting even for two or three months, when the blood will have been found to have again the former anomalies of coagulation.

In obtaining the serum, it has been observed that the specimen secured by centrifuging the blood is not as active as when allowed to clot in the test tube. Antitoxic serum has been used in some cases, with beneficial results. Human serum acts beneficially by protecting against anaphylaxis, no matter in what dose it is employed. However, direct transfusion from one person to another is fraught with certain dangers; especially is it desirable to ascertain that the serum of the giver does not agglutinate the red corpuscles of the recipient, or reversely. Horse-serum, which can be obtained in large amounts, seems to yield more uniformly satisfactory results than will any other animal-serum. Beef-serum has a tendency to induce anaphylactic symptoms, that is, chills and fever, cyanosis, vomiting, headache.

To obtain full therapeutic action, serum older than two days should not be used. Precipitated blood-serum, in the form of powder, has yielded good results in hemorrhages after tonsillectomies and turbinectomies.

TREATMENT OF EXOPHTHALMIC GOITER

Of the numerous remedies of value in the treatment of exophthalmic goiter, J. M. Anders (*N. Y. Med. Jour.*, Oct. 21, 1916, p. 773) says that two are worthy of careful consideration, these being quinine hydrobromide and antithyroidin, the latter obtained from the serum of thyroidectomized sheep. Anders endorses the statement of Elsner and Wiseman, that antithyroidin confers benefit, since it relieves the tachycardia, precordial distress, and tremor, while it also causes a reduction of the enlarged gland. It should be continued for from four to eight weeks, given at intervals of two to three months.

Anders speaks highly of the treatment with quinine hydrobromide, as proposed by Forchheimer. His custom has been to prescribe it in 5-grain capsules three times a day after food, later increasing to four doses of the same strength daily, if well borne. The remedy is to be continued until the subjective symptoms of tachycardia and tremor have disappeared, after which the doses are to be reduced until one is taken a day. Should active symptoms arise during this period of

withdrawal, the drug should be resumed in full doses at once.

Doctor Anders believes that the quinine hydrobromide antagonizes the hyperthyroidism, as a result of its vasoconstrictive action. However, this is accomplished in a slow and gradual manner; therefore, patients should be told that they must be prepared to take the remedy continuously for a period of months.

We may add that Forchheimer was accustomed to give ergotin in association with quinine hydrobromide. This method of treatment we know to be a very good one, having personal knowledge of a number of patients who have improved very decidedly under this method of treatment.

HOW TO LOCATE POINTS OF FOCAL INFECTION

Now, that we are beginning to believe that many of our chronic diseases are caused by focal infections, that is, the entrance of disease-organisms into the body at some point remote from the present site of the disease, it is of interest to know that it may be possible to locate the seat of the trouble by the diagnostic use of bacterins. As Noble P. Barnes points out (*N. Y. Med. Jour.*, Oct. 31, 1916, p. 779), one result of the injection of a very large dose of vaccine is, to cause inflammatory symptoms at the focal point, that is, the point of entry of the infection. For instance, if rheumatism is due to a primary tonsillar infection, the injection of the proper strain of the streptococcus will light up the tonsillar trouble as well as the rheumatic trouble. This fact may be important, especially when the original site of disease has become obscured.

Doctor Barnes illustrates this fact by telling of a case of gonorrheal arthritis which obstinately resisted treatment. Eventually he decided to give the patient an unusually large dose of the bacterin. The result was, that not only was the rheumatic trouble aroused, but he uncovered an unsuspected point of infection causing a most distressing epididymitis. In another case, a woman suffering from socalled "rheumatic gout" was shown, by the diagnostic bacterin test, to have a marked infection in the appendix; while still another patient, a woman suffering from a chronic polyarthritis and a bed invalid for over a year, was found by the bacterin test to have a gall-bladder infection.

Consequently, it is well for the physician to remember that bacterins not only possess a therapeutic value, but also a diagnostic one. When used for the latter purpose, however, the dose must invariably be a large one, since reaction—and decided reaction—must be secured, to obtain information of value

TYPHOID FEVER IN THE ARMY

At the meeting on medical preparedness held by the Chicago Medical Society, November 8, 1916, the statement was made that 146,000 United States soldiers had been located on the Texas border for about four months. The efficiency of the sanitary measures employed in this body is shown in the statement made by Col. Birmingham at Philadelphia on October 28, who said: "To date, there have been 14 cases of typhoid fever on the border, 3 in the regular army, and 11 in the militia."

When we remember that during the six months of the Spanish-American War 20,700 cases of typhoid fever occurred in our army, we get some little idea of what has been accomplished by our army medical officers during the last eighteen years. While the development of camp sanitation is responsible for much of this improvement, perhaps even more must be ascribed to the introduction of prophylactic vaccination.

COMMUNICABILITY OF POLIOMYELITIS

Some idea of the degree of communicability of poliomyelitis can be gained from a study of the following table, based upon reports of the first 7000 cases seen in the epidemic in New York City. We quote from the weekly *Bulletin* of the department of health of the city of New York:

	Families	Cases	Percent of Total Families
1 case in a family..	6521	6521	96.63
2 cases in a family..	205	410	3 04
3 cases in a family..	20	60	0.30
4 cases in a family..	1	4	0.014
5 cases in a family..	1	5	0.014
	6748	7000	99 998

"It is realized, of course, that this does not fully answer the question, for the figures do not indicate the number of children in each family. Thus, it might very well be that a large proportion of the families in which only one case occurred were families in which there was only one child. Further study of the problem is in progress in New York, and we hope soon to be able to give figures, including the number of children exposed in a family.

Miscellaneous Articles

An Indictment of Alcohol

I HAVE been deeply interested in the discussion by Doctor Bowers, in the July number, of the value of alcohol, together with the rejoinder by Doctor Thackeray (September issue, page 788), as also the comments by the editor. I, for my part, agree with nearly everything Doctor Bowers says in his masterly article, and I heartily endorse the statement that the proper place for alcohol is outside the body, not inside.

I have no doubt, of course, about Doctor Thackeray's being perfectly honest in his opinions and beliefs, even if he has been drinking alcohol ever since he was sixteen years of age; nevertheless, I want to remind him that opinions and beliefs are not knowledge and that his family-history proves nothing in the controversy about the proper place for alcohol.

I also object to the way he brings in his reference to the second chapter of the gospel of St. John. A careful reading of that chapter will plainly show that the servant filled the water-pots to the brim with *water*, and there was no alcohol in the wine that was served to the guests on that occasion.

I want to get into this discussion just far enough to say what I know about alcohol; not as a matter of opinion or belief, but from actual knowledge.

Alcohol is an anesthetic, narcotic poison. Its chemical composition is C_2H_5OH plus death. In plain English language, 100 pounds of alcohol contain approximately 53 pounds of dead carbon, 13 pounds of hydrogen, and 34 pounds of oxygen. It is a product of death and decomposition. A true hydrocarbon cannot by any possibility become a food, and from the moment it leaves the wine-press, the brewers' tub, or drips from the poisoned copper worm of the distillery, alcohol is an anesthetic, narcotic poison and gets in its deadly work on the carbon compounds of the body.

Carbon is the chief organic element in the human body, and the life-principle in man is contained very largely in his blood, nerves, and brain. These are the albumins and albuminoids of the body, and in them we always find five simple biogenetic elements, viz.: carbon, hydrogen, nitrogen, oxygen, and sulphur. The greatest peculiarity about these carbon compounds is that they are very unstable as regards weight—the five original biogenetic elements varying as much as from 51 to 54 percent of carbon; 21 to 23 percent of oxygen; 15 to 17 percent of nitrogen; 6 to 7 percent of hydrogen; and 1 to 2 percent of sulphur. The disposition of the atoms in the molecule is very complicated and is constantly undergoing changes in varying conditions of health, and still greater changes in disease.

It is not my purpose to go into this phase at this time. What I want to establish is the fact that the albumin-molecule is very complicated and at the same time very unstable; that is to say, very easily altered. Now bear in mind that the albumins contain 53 percent of *living carbon*, and that alcohol contains 53 percent of *dead carbon*. And now follow me closely:

When a man drinks an alcoholic beverage, the alcohol in it is absorbed, undigested and unchanged, into his blood, nerves, and brain as alcohol. The first effect is that of an anesthetic, thus producing that sense of well-being that is so often mistaken for stimulation. The second effect is that of a narcotic. The third effect that of a toxin, or poison.

A large portion of the alcohol is eliminated through the lungs, in the form of alcoholic vapor. Another portion is oxidized, converted into an aldehyde (C_2H_4O), then into an acetic acid ($C_2H_4O_2$), then into other forms, and finally is eliminated through the intestines. But a portion of the alcohol—and this is by far the most dangerous portion—is split up by the disassociation of its atoms. The hydrogen is converted into carbureted hydrogen, the poisonous radical of alcohol; the oxygen is burned up; while the atom of dead carbon, because of its affinity for the atom of living carbon in the molecule of al-

bumin, attaches itself to that. Constant repetition of this process, as a result of steady drinking, alters the composition of the albumin-molecule to such an extent that in all indulging in the daily consumption of alcohol we find, instead of 53 percent of living carbon in the molecule, there is only 50 percent, while there is 3 percent of dead carbon. Add to this 3 percent of dead carbon in the blood, nerves, and brain of the victim, a congestion of the mucus membranes of the stomach and intestines, a congestion of the liver and kidneys, and increase of connective tissue, poisoning of the blood, hardening of the nerves and brain, insomnia, craving for more alcohol, overworked vital organs, loss of will power, deranged and disordered metabolism, and you have a fairly correct picture of the man who drinks alcoholics habitually.

If all men were alike, all men who drink alcoholic beverages would become drunkards. The man whose percentage of carbon in the various compounds of the body is at par seldom acquires an uncontrollable appetite for alcoholic beverages, but the man whose percentage of carbon in these compounds is below par always acquires an irresistible craving for alcohol. That is the reason why some men become drunkards, while others, under the same circumstances, do not.

The man who drinks "pays." Man-made laws are not always enforced, but nature's statutes against intemperance are always enforced to the letter. Degradation, poverty, insanity, premature death, and no hope of a resurrection are some of the penalties nature exacts for drunkenness.

What is drunkenness? How much whisky must a man drink before he becomes a drunkard? How many drinks make a drunkard?

How about the man who drinks whisky daily for sixty years? You may say that man will forever be what he makes himself; that his follies, vices, and sins are his own. From the awful responsibility for himself he cannot escape. Suicide cannot kill him; death cannot destroy him; no ritual, ceremony, fasting, confession or repentance; no imploration or sacrifice to the gods can save him; he has no friend at court, no attorney to appear for him; and if he dies a drunkard he alone is responsible, and he goes out into the great unchartered Saragossa Sea of lost souls, with the awful sentence ringing in his ears, "No drunkard shall inherit the kingdom of heaven."

But, how about the physician who carelessly or deliberately prescribed alcoholics for that man, thereby starting him on the road to perdition? Who is responsible?

GEO. D. SWAINE

Cleveland, Ohio.

ZONE-THERAPY. ALSO, SPECULATIONS ON LIFE

In the February issue (page 176), Dr. Edwin F. Bowers gives an interesting account of the Fitzgerald method of painless labor, which, if it will stand the test of the furnace of experience, should almost revolutionize the practice of obstetrics. However, like the editor, I am skeptical; still, I like the spirit displayed by Doctor Bowers, showing, as it does, a willingness to investigate any avenue of thought that promises even a possibility of reward for the time and energy expended, in the relief of suffering.

I suggest that the editor request Doctor Bowers or someone who has given thought to this subject to give us a complete outline of the subject of zone-therapy, with diagram if possible. It will do us good to investigate, without prejudice, some of the things about which we are inclined to skepticism.

And that reminds me of a previous article, by the same author, in the September, 1915, issue, page 842, entitled, "Explaining the Unaccountable," in which I was much interested. It would be time well spent to reread that paper, as well as the excellent editorial comment on it, in the November issue, page 993.

It is only a step from physical to metaphysical, from physician to metaphysician; and no class of men is better qualified to investigate the metaphysical than are physicians. Indeed, I expected to see many comments, favorable and unfavorable, upon Doctor Bowers' hypothesis regarding health and disease being simply normal or abnormal states of vibratory motion. When such a hypothesis has the support of such scientists as Sir Oliver Lodge and Sir William Crooks, it may be considered as elevated to the dignity of a theory.

I have been reading and thinking along similar lines, and was very glad to see this article published in our journal and to note the very favorable comments by the editor.

There are several points in that paper that I want to see discussed, if it may be brought up under the head of "unfinished business."

Without wishing to be called upon for a definition of "life," it is frequently considered as equivalent to "spirit," and, as such, ap-

pears as the *opposite of matter*. If there is vibration, there must be something to vibrate, and that something is *matter* in some form. So, I should not say with Doctor Bowers, that "life itself is perhaps a species of vibration," but, rather, that vibration is the *manifestation* of life or spirit on form or matter.

Doctor Bowers' idea is unitarian, while I believe in the trinity of spirit, matter, and the relation subsisting between the two, which latter is vibration, or action.

He may have the courage to say that these are the three aspects of the one ultimate cause. Then I should be tempted to join his church, at least as a probationer.

The suggestion that people are attracted to each other whose vibrations are harmonious is very plausible, and I should not even except the element of "sex-attraction," but would include that in the same cause, namely, synchronous vibrations. Indeed, sex-attraction is as natural a result as the action of two tuning-forks or two wireless instruments that are "in tune" with each other. So, if we ignore the idea of reincarnation and of intimate association in former lives, I think that "harmonious vibration" covers practically the whole subject. When cells and electrons vibrate normally, there can be no *locus minoris resistentiæ*, and, therefore, no disease can gain a footing.

The "cleanout, cleanup, and keep-clean" practice is a rational means of attaining and maintaining normal vibration—health. Doctor Neiswanger, of Chicago, has ardently supported the vibration-idea as applied to chronic nephritis and has put his belief to practical test by treating, and curing, many cases of this disease by means of static electricity.

I have followed the treatment, as given in his book, "Electrotherapeutical Practice," in a number of cases of undoubted chronic nephritis, with very happy results in every case.

All nature has its periods of activity and rest, its day and night, its summer and winter, which are merely the alternating current of nature from positive to negative, from action to quiescence.

Life and (socalled) death are the ebb and flow of cosmic energy; and as truly a vibration as that of the pendulum.

The great *law* of *opposites*, that "*action and reaction are equal and opposite*," is as applicable to the metaphysical as to the physical; and, if we are to get an idea of the Final Cause, we must endeavor to transcend time and space and make our observations from His viewpoint.

L. J. Coberly.

Oakesdale, Wash.

IPECAC IN TYPHOID FEVER

During the past few months I have made use of ipecac in all of my cases of typhoid fever and I am virtually sure that in every instance it has had a decidedly beneficial effect. Heretofore out textbooks have called ipecac an emetic, expectorant, and diaphoretic; but now, with the additional light thrown upon its physiologic and therapeutic actions, during the past few years, we must also ascribe to it a prominent place among the hepatic stimulants and the remedies controlling hemorrhage, especially of the lungs. Its alkaloid emetine is said to be specific in all cases of amebic dysentery, while in bacillary dysentery, according to my experience with it in an epidemic of unusual severity, recently, it has a more definite action than any other drug I am familiar with.

The use of ipecac formerly appears to have been limited to cases of croup and poisoning—in other words, it was used almost exclusively for its emetic effect. Being an oldfashioned drug, its many other valuable uses were, apparently, overlooked by medical men, in their search for newfangled remedies.

I was led to its use in typhoid fever by the very excellent results I had obtained from its administration as an intestinal antiseptic in hepatic engorgement from colds, also in toxemias, especially of children. My cases of typhoid fever have, perhaps, not been of sufficient number to render the evidence conclusive; however, I had definite clinical evidence bearing out the following therapeutic actions of ipecac in this disease: decided diminution of the tympanites, lowering of temperature, absence of delirium, return to absolutely normal temperature usually in two weeks from the onset of the attack. Complications of any serious nature have not been observed. In one case there occurred phlebitis, or fever-leg, but only in a mild form.

I have always administered a urinary antiseptic in typhoid fever, and deem it essential. The form of ipecac used by me has been the powder, in combination with small doses of calomel and bismuth, given, just short of nausea, for several hours daily or every other day, and usually followed by the administration of castor-oil. The patient sometimes will be slightly nauseated for a short while, but this generally lasts but a very short time.

I have yet to see any unfavorable symptoms from this line of treatment; only in some cases it appeared to cause a diminution of the excretion by the kidneys and to render the urine more irritating.

H. W. Smeltzer.

Greendale, Va.

[Be sure to read the next article, also dealing with this topic.—Ed.]

EMETINE AND IPECAC COMBINATION IN TYPHOID FEVER

During last July, it was my apparent misfortune to have under my care two cases of true typhoid fever. Both these patients were rather past the prime of life and had, in years gone by, suffered from repeated attacks of nephritis. Specimens of their urine contained a lot of kidney debris and a large percentage of albumin, and were of light specific gravity. The face, hands, and lower limbs were bloated; there was uremic headache, temperatures ranging from 101 in the forenoon to 104 degrees in the afternoon, meteorism, delirium, and a pulse rate of from 90 to 120. It was in the beginning of the third week in one and of the third week in the other.

I had just been having most excellent results with typhoid phylacogen, but, on account of kidney complications, this specific was debarred in these two cases. So, it was up to the doctor to do something out of the ordinary quickly, or quite likely lose two good people and patients intrusting into his hands their life and health. I put them on an as aggressive antinephritic treatment as was possible, remembering the ulcerated bowels and powerful toxins pervading their bodies.

After thinking over this complicated problem in pathology, during the evening, finally a, to me, satisfactory conclusion was reached. I visited the patients early next morning, gave each, hypodermatically, 1-2 grain of emetine, ordered the nurse to give two alcresta ipecac tablets three times daily (not near the time of feeding or of taking alcohol), one small dose of castor-oil daily, and prescribed an absolute, measured liquid diet. Six days of this treatment found both of my patients free from fever and their kidneys much better. Recovery from then on proceeded uneventfully.

There was no nausea or bowel trouble after beginning this treatment. The patients felt better and better with each day; the temperature dropped about one degree daily, till it was normal on the sixth day, and so it continued.

Since then, I have had under this treatment 7 unmistakable, tested cases of typhoid fever, typical in every particular, and they were found normal on the morning of the sixth day, and had no relapse. I have had 5 others, not so typical clinically nor by the three tests, but, summing them up in every particular, after discharging them, there was no doubt in my mind as to the diagnosis.

These last 5 patients responded in like manner to the same treatment, except the third, whose temperature did not become entirely normal before the eighth day.

Recently, I have had two more patients, who came to my office for seven days, to receive hypodermic injections of emetine, they carrying out the other part of above treatment, too. They were free on the evening of fifth day of treatment, but, for fear of return, I gave them emetine two days longer. This forenoon I have just discharged a typical case, fever-free on the evening of the sixth day. Same treatment.

So, it would seem that the simultaneous administration of emetine, the active principle of ipecac, hypodermically, and of alcresta ipecac tablets internally, will inhibit the development and propagation, not only of the bacillus typhosus, but of that of the paratyphoid germs A and B as well; to such an extent, that is to say, as to abort the disease in its beginning and stop it in nearly the same number of days, even after the germ and its toxins have the whole system under their full sway and control.

O yes, I know that there is an old saying about one swallow not making summer; still, sixteen or eighteen of them in a bunch make noise enough like springtime on hand to be worth our close attention.

I have tried emetine alone, also alcresta alone, and both influence typhoid fever favorably; still, neither given alone produced the marked and satisfactory specific effects here described.

In none of the cases has there been observed the least untoward effect, except for a slight transient soreness of the arm where the hypodermic was given, but this was easily dissipated by means of ordinary antiphlogistic measures.

Thinking that a brief account of these 18 cases, with this unusual and most satisfactory curative effect of the combined administration of the two forms of our new-old therapeutic friend may interest your readers, that some be induced thereby to try it and

prove its efficiency quickly, is my reason for asking you to give it space in your most valued medical periodical.

S. H. Howard.

Jackson, Miss.

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[Since we published in Clinical Medicine (See issue of May, 1915, p. 453.) an abstract of Frazier's article, originally printed in *The Medical Record*, describing the remarkable results obtained in 82 cases of typhoid fever treated with hypodermic injections of emetine, we have received several reports of experience with the method, modified variously to suit the needs or practice of the several reporting physicians. In the main, our correspondents have been greatly pleased with the emetine treatment. During the meeting of the Clinical Congress of Surgeons, at Philadelphia, I had a very interesting interview with Doctor Glasser, of Williamsport, Pennsylvania, who is treating his typhoid-fever patients with the emetine-injections in a large general hospital where it is possible to determine the diagnosis accurately and measure the results. He praises the method highly.

Frazier depends exclusively upon emetine hydrochloride, which is given to adults in 1-2-grain doses subcutaneously, two to four times daily. The bowels are kept clean. His cases, as a rule, clear up inside of six days. The associated use of the sulphocarbolates seems to us desirable—indeed, it is well nigh imperative. Typhoid bacterin is a valuable addition to the treatment. Can any of our readers contribute further to this discussion? —Ed.]

RESORTS FOR HAY-FEVER VICTIMS

Having had attacks of hay-fever, this annoying trouble, for the last ten years, but also having enjoyed unusual opportunities for visiting various hay-fever resorts, I am going to tell what my experience has been. The first place that I visited was Petoskey, and this locality proved entirely satisfactory, as also did other places north of that city, as for instance Mackinac and the Snow Islands. Residence at Muskoka Lake was very beneficial and also at the north shore of Lake Superior, especially what is known as the Nippigon region. Minnesota Point gave fair relief, but not Duluth. That portion of Canada south of Muskoka Lake did not afford relief, nor did Rochester, Minnesota, or the valley of the Red River of the North up to Winnipeg. The Rocky Mountain range and the Pacific Coast, from the Mexican border to Alaska, was free from this trouble, although in some of the alkali plains of the West much rhinitis developed. During extensive traveling in Europe, Asia, and Africa, I had no attacks of hay-fever, so, also, neither in Australia, New Zealand, or the Samoan and Hawaiian Islands.

This last season I determined to investigate new places and, so, turned my face south. Roan Mountain, Tennessee—in that corner of the mountains near Kentucky, Virginia, and North Carolina—I found a good oldfashioned comfortable place, the village being situated 3000 feet up and the mountain top 6000 feet. At Cranberry and at Elk Park, I was relieved. They are just over the North Carolina line. At Asheville, I found relief, while at Waynesville, only a short distance from there and of the same elevation, I suffered much. This was because Asheville cut the weeds and Waynesville did not. At Eagles Nest, five miles from Waynesville and in full view of it, relief was found. This was due to the greater elevation—5000 feet. Mount Mitchell and Balsam were good, for the same reason.

As I went further south, the corn in the fields became poorer, the cotton better, and the ragweeds scarcer; likewise my hay-fever became more rare. I visited seaside resorts all along the coast, and, in addition to remarkably fine beaches and bathing, found relief from hay-fever. This was so on Palm Island off Charleston, South Carolina, and in full sight of forts Sumter and Moultrie. Tybee Beach, at Savannah, Pablo Beach, at Jacksonville, North Beach, at St. Augustine, Daytona, Palm Beach, Miami, and Key West. I took a trip, by boat, into the Florida Everglades and, besides visiting a very interesting country, found this region free from hay-fever.

Crossing over to Cuba, I found that island not only very happy and prosperous, but also free from hay-fever, and Havana free from mosquitoes and contagious diseases in September. The Canal Zone I also found free, as I always have found the tropics.

I hope that I have pointed out to some weary hay-fever sufferer some new place to go to if he has tired of the old or a nearer or less expensive one than he has formerly patronized. I hope also that I may induce some of our northern people to go south and become acquainted with the delightful climate and people there.

Cincinnati, O. E. S. McKee.

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[Since receiving this little article, which was sent us by Doctor McKee just on the eve

of his departure for a long, leisurely trip through South America, we have heard the sad news of his sudden death, in Ecuador. For three or four years Doctor McKee had spent most of his time in traveling, completing a trip around the world soon after the outbreak of the European war. We have on hand several brief articles from his pen, which will be printed later.—Ed.]

ABOUT SHEPHERD'S-PURSE AND BURSAL

The writer recalls how, when he was a schoolboy, in the '60s, his father, a country doctor near Chicago, first learned about the shepherd's-purse as a remedial agent. The Doctor had been treating a farmer's wife for uterine bleeding, but all the approved remedies failed to do good. Finally, at one call, the woman told him that she was cured. Another woman had told her to drink an infusion of a certain herb, and this plant, when pointed out to the doctor, was recognized as the common capsella bursa pastoris. After that, he gathered the weed and always kept on hand a supply of it, and, presumably, found it a satisfactory addition to his materia medica. A few years later, he found that Parke, Davis & Co. had put on the market a fluid extract of this drug; which, it seems, attained a certain vogue. When subsequently the present writer entered the drug business as an apprentice, he learned that this herb once had been popular in Teutonic Europe, but had been put in the discard, because the crude chemistry of that period had "failed to discover in it an active principle."

The history of this little "innocent" herb should point a lesson, since it is paralleled by that of other useful remedies, and one cannot fail to think of cactus grandiflorus (which by the way, this writer's father also used from the time of its first introduction, as also has the writer personally). Just now, carduus benedictus—the *blessed* thistle—is in the popular eye (at least in Chicago), and one wonders with what right all those "famous" pharmacologists categorically condemn that plant, when they cannot prove positively that its once great vogue rested upon nothing but a mere delusion. Those so positive "experts" seem to arrogate a great responsibility. But, to the subject.

Of late, a German firm has introduced a powdered dry extract of shepherd's-purse, prepared by a patented process, and supposed to contain all the active constituents of the herb. It is marketed under the copyrighted name of bursal. A. Groeber, of the Pharmacologic Institute of the University of Berlin, has been devoting some attention to this preparation and has reported his findings in the *Therapeutische Monatshefte* (1915, p. 256).

In this paper, the author first points out that Dioscorides and Pliny extolled its numerous virtues under the name of thlaspi. Later, the plant was discussed at length by Tabernæmontanus (who died in 1590) in his "Neu Kraeuterbuch." However, the plant fell into neglect again—after Tabernæmontanus had resurrected it in his time—toward the close of the 18th century. It would really be interesting to repeat here all the virtues ascribed to this plant; however, the prominent and constant one mentioned was that of its power to check the flow of blood, whether employed internally or locally.

This subject has been treated at some length by Theodor Husemann, in the *Pharmazeutische Zeitung* of 1888, page 91. This historical sketch, however, was but an addendum to an article contributed to the same journal (*l.c.*, p. 53 and p. 151) by E. Bombelon, which dealt with the chemistry of the plant. The Frenchman succeeded in isolating an organic acid—*bursic acid*—and an alkaloid, *bursine*, which latter he obtained in the form of the hydrochloride. This principle he pronounced to be a thiocyanic compound, similar to or identical with sulphocyansinapin. (See U. S. Dispensatory.) While no pharmacologic studies appear to have been instituted, Bombelon recommended giving a strong infusion of the whole herb in doses of one or two teaspoonfuls; Husemann, in this connection, raised the question whether the allylsinapis oil present in the seed-capsules might not be a contributing element in the therapeutic results.

Just how the fluid extract of shepherd's-purse happened to be brought to the attention of the American doctors at that time has always puzzled this writer—possibly there may have been some connection between this fact and the publication of the foregoing articles. Or did American "herb-doctors" give the impetus? Possibly some oldtime reader or pharmaceutical chemist can supply the answer.

The author in question, Docent A. Groeber, has been unable to discover any literature indicating that any pharmacologic study of this drug ever has been made, and, so, he undertook to investigate the action of the dry extract offered under the name of bursal, and

to which the manufacturer ascribes properties similar to those of ergot.

For the purpose of determining the influence of the bursal upon the womb, he utilized the still vitalized detached virginal uterus of the cavy. The organ was suspended, according to customary practice, in 30 mils (Cc.) of Tyrode nutrient fluid at 38° to 39° C., and, after the organ had been exhibiting normal activity for a while, measured amounts of a 2-percent bursal-solution were introduced.

The author presents reproductions of 5 tracings of the contractile behavior of the uterus under the influence of the agent, and the curves are remarkable and pronounced ones, but his textual comment is meagre.

The results differed for each animal, and varied with the amount of the drug added to the liquid. In part, merely a marked augmentation of the normal single contractions was produced; but usually the curve first rose abruptly and almost perpendicularly, then, after a slight drop, would maintain for a more or less prolonged period an elevation much above normal. At the same time, the single movements showed a rise below normal and sometimes disappeared entirely. Thus, the author remarks, we here have a tetanic contraction of the uterus. After thoroughly cleansing the uterus with Tyrode solution, it gradually recovers and returns to normal activity when again placed into fresh nutrient fluid.

All in all, Groeber adds, the action of bursal upon the isolated cavy-uterus resembles that of secale cornutum. It is worthy of note, in this connection, that a considerable concentration of the drug-solution was required to secure these results, namely, I : 300 in most of the experiments. While this points to relatively little activity, nevertheless the author considers his results of sufficient importance to warrant clinical experimentation, particularly in view of "the constant reappearance of the assertion that the oldtime popular remedy exerts an influence upon the womb." He adds that Husemann's suggestion anent the possible role played by the allylsinapis-oil may have some truth in it.

The author, using cats, also endeavored to learn whether the drug has any influence upon blood pressure. However, in no manner of administration was there any action, except when introduced direct into the veins, when the pressure was lowered; but this he attributes to the presence of potassium compounds in the plant. No untoward effects, either, could be observed, even after large doses, when given by stomach. The intravenous route would be dangerous, potassium-poisoning being possible.

A. G. VOGELER.

Chicago, Ill.

PALACIOS

Along about the close of the Civil War, three brothers came, with their herds, to the part of Texas where I am penning these lines, and, finding the lush pasturage to the liking of the cattle, they settled permanently. On the long stretch of land known as Matagorda Point, they built houses, which, standing out prominently from the landscape, to the passing voyager on the Gulf looked so huge that they received the name of Tres Palacios—the Three Palaces.

Half a century later prospectors came, seeking a location for a Texas watering-place, a sort of Mexican-Gulf Atlantic City. This spot they found on the north shore of Tres Palacios Bay. This sheet of water stretches two miles across to Matagorda Point, which latter extends some miles south, then comes the bay, and then again a neck of sand dunes that separates the bay from the open gulf at a distance of ten miles from this town. Amply protected against all gulf storms, with salt-water bathing all the year around, open prairies extending for miles round about, a soil the most fertile on earth, a climate where every fruit, from apples to bananas, may be raised and gardens made in any month in the year, and the prevailing temperature never either very hot or very cold, Palacios (accent on the third) certainly seemed ideal.

So, a town was laid out and advertised, and people—several thousands of them—came, and they built themselves homes, and planted orange-groves and fig-orchards. The Baptist Young People's Union laid out association grounds and began to hold a sort of Chautauqua each summer; also it built a college. The young town bonded itself to the limit and erected schools and other modern improvements. Palacios began to be "some" resort. People from the interior Texas towns came hitherward to avoid the blistering heat of summer, others flocked here from the northern regions in order to escape the winter's chilling blasts.

The Satsuma orange proved resistant to whatever cold spells happened to befall, while the crops of cotton, rice, cane, melons, and garden-truck maturing in the strong clay soil were phenomenal. Packing-houses rose, to

care for the delicious figs. The briny water of the bay teemed with every variety of fish, from the lordly tarpon down, and the crabs, shrimp, oysters—say, brother, just come down and try these oysters, and you will stop talking about bluepoints. A number of small industries arose and prospered, and the town-magnates sat down and began to study European tours and to plan the investment of their swelling profits.

Then came the terrible storms that swept the gulf coasts and revived the memories of the Galveston disaster. Palacios folk just smiled and sat back comfortably—no storm ever bothered Palacios. Unfortunately, they forgot that the rest of the country did not know this fact and that the people depended upon the newspapers for information. And none of the papers ever thought of mentioning the immunity of Palacios from those tornados. So, the northern people went elsewhere to spend the winters—to well-advertised Florida, mainly, or to the great exhibitions in California. Fewer Southerners came to the coast for the summer season. Palacios began to retrograde.

Today, half of the shops are vacant, houses are to be had for very low rents, and people are leaving, to find homes where they can make a living. Farm values are there, but prices have gone down.

Palacios should have jumped in and advertised far and wide when the safety of its location was so plainly manifested. The town missed its opportunity. I have been unable to find a solitary instance of an application for storm damages having been made to any of the insurance companies during the last ten years, that is, since the founding of the town. Gulfport was "devastated"—in the newspapers—by a storm a short time ago, but all the damages that were applied for amounted to just $1500. I have seen more than one hundred times more damage done at Atlantic City by a high tide, the shops and cottages piled in confused heaps, like the debris of a shoestore after a Saturday-night's sale; yet, not a line about it appeared in any paper west of Philadelphia. And, so far from deterring visitors, thousands rushed there to see the spectacle.

At present? Palacios is clean, well laid out, has good shell streets, and there are automobile-roads extending to Houston and beyond. The schools are excellent, the water from artesian wells is absolutely protected and pure, there is here neither any typhoid fever nor malaria. The fishing is very fine; quails abound by the million; duck and goose shooting is said to be good; even larger game is to be found within reasonable distance.

This is a prairie country, and at first the absence of trees seemed objectionable—yet, one is relieved of the cost of clearing and can plant what trees we want, when we want and just where we want to. Growth is marvelous—our boy set out Satsuma oranges in January of 1915, and they are bearing fruit now. We are ordering for our small place these oranges, lemons, grapefruit, figs, pecans, pomegranates, Japanese persimmons, grapes, apples, plums, peaches, pears, all of which we see grown successfully here. One orange-orchard is expected to pay its owner $1000 an acre this season. We intend to set out our kitchen-garden in November. In fact, it will require about five acres to accommodate all we want to plant. Vegetables are so easily grown that nobody has gone in for truck raising yet. Jersey milk of the best quality is plentiful; eggs and butter are good and cheap.

The people are largely from the North. There are no negroes, except a few transient workers. No liquor. Many churches. Good beginning of a public library. Several hotels, with good reputation for cookery. Ice and electric lighting furnished by the same company.

The natural resources of this locality are great, but not yet delimited. There is a large output of petroleum within fifty miles from here, while the largest sulphur-mine in the world is only forty miles away. A railway connects with Houston and the Intercoastal waterway canal with Galveston.

Pests? When thinking of Texas, we, naturally, think of rattlesnakes, centipedes, scorpions, tarantulas—but, the only pests we have yet seen are red ants, and they are not as troublesome as they are in Muskegon.

This is our first visit to Palacios. So far, we are well pleased, enough to contemplate making it our winter home, as Muskegon is our summer resort. Still, we are waiting for further experience, and this will be faithfully recorded. Land is very low just now, and, if anybody believes that a region of such remarkable fertility and range of productiveness can be kept out of the hands of the land-hungry American people much longer, we should like to hear his reasons. Within ten years, the farms that are now offered at $50 an acre will be considered mighty cheap at five times this amount. The land is worth that much now.

Postscriptum, November 9.—One of those dreaded northers came in, and we started a

little fire in the stove for the first time this season. We cannot find that one-cent's worth of damage has been done in Palacios—but today we did hear that the wind blew the roof off our Michigan resort cottage! It gets quite hot here at midday, but the nights are cool. The air is bracing and work is a pleasure here. We had green corn on the cob, of excellent quality, for dinner today. The norther blew in many ducks and geese.

If any reader is looking for a place to send a delicate relative for the winter or feels like taking a vacation where fishing and shooting are worth while, I shall be glad to hear from him.

William F. Waugh.

Palacios, Tex.

WHITE SKIN VS. BLACK SKIN IN THE TROPICS

For years the public has inquired of the medical profession, Why does the heat of tropical climates affect white-skinned people adversely, more than it does the black-skinned? There has never been any explanation of it, to my knowledge, except that the actinic rays of the sun are supposed to be rendered inert by dark color and thus prevented from doing harm. Our army at one time adopted dark underclothing for the soldiers, according to this idea, but it was found to be a failure and discontinued.

The following hypothesis is based upon entirely different biochemical facts and certain experiments indicate that it may be put to practical use by persons living in hot climates; at any rate, it is a rational answer to the public's inquiry.

In U. S. P. H. S., Hyg. Lab. Bulletin No. 59 we find the following: "Probably wherever melanotic pigments occur in the living tissues of the lower and higher animals, they originate as the result of the action of appropriate enzymes on substances of aromatic nature." (p. 71.) "Tyrosinase is responsible for the production of cutaneous pigments in man and animals." (p. 72.) "Only substances containing phenolic hydroxyl are oxidized by tyrosinase." (p. 83.) "A peculiarity of the tyrosinase contained in the skins of animals is, that it only acts upon tyrosin in the presence of small amounts of iron." (p. 73.) "It has been shown experimentally that certain iron salts accelerate biological oxidations." (p. 123.) "Floyd found nearly twice as much ash in the skin of the negro as in that of whites, and nearly twice as much iron in the ash of the negro's skin as in the ash of whites." (p. 123.)

Now, the application of the above facts to people and climate is, that during long hot periods of time the superficial capillaries of the body are continuously dilated. This dilatation withdraws considerable blood from the internal organs (liver, kidneys, etc.) whose function it is to extract amino-acid waste products from the blood, for excretion. In turn, withdrawal of blood from the internal organs causes them to become sluggish, and we have the socalled "torpid liver," with gradual waste-product accumulation in the system. During cold weather, this superficial capillary dilatation does not take place to any great extent, consequently the internal organs receive blood in greater abundance and they are stimulated to greater elimination of waste.

The difference between dark and white skins is, probably, of little moment during cold weather, because the capillaries are contracted in both and the internal organs are active; however, in hot climates, nature has provided the black skin with four times as much iron for oxidative processes as the white skin and, consequently, it takes from the blood of the black four times as much waste as is taken from the white.

Waste is oxidized into pigment and is continually gotten rid of by erosion of the superficial layers of skin. Thus, we find the reason why people of white races have an unequal chance with people of dark races, from the standpoint of health, in hot countries.

I believe these facts have an important bearing upon the difference of susceptibility to pellagra in whites and blacks. Pellagra is coming more and more to be considered an acid intoxication, and, if negroes are able to excrete toxins in large amounts by the skin, certainly these poisons fail to accumulate as rapidly as they otherwise would. The greater prevalence of pellagra in hot climates also may be accounted for in this way, the kidneys and liver being less active than in colder climates.

Geo. D. Fairbanks.

Brownsville, Tex.

ANOTHER LETTER FROM DOCTOR HOLLMAN

After the appearance of my last communication in the October number of Clinical Medicine, I paid a visit to the office of this journal.

The Mosquitia, as I have written, is a very fertile country, but that very quality makes

necessary more than common efforts to render the land subservient to man; for, its very fertility, so desirable to us, has produced a tremendous growth of jungle and forest, and this must be cleared away. The sturdy farmer and the backwoods' boy, with his ax, grindstone, and brawn, soon becomes master of the situation; but, doctor, I doubt very much your being a better man than I with the ax—and I have to hire someone else's arm to swing it for me.

One hectar (I prefer to figure in hectars, to which I am more accustomed—the hectar being 10,000 square meters) accommodates 625 cacao-trees, and clearing, planting, and the cultivation during two years costs you $175, or $1750 for 10 hectars (about 25 acres).

After the fifth year, these cacao-trees bear, on an average, from 1 to 1 1-2 pounds of seeds each. Figuring only 1 pound—or 625 pounds of cacao-beans to the hectar, at a selling-price of 40 cents a pound, makes a gross return of $250 per hectar.

When in New Orleans, I investigated the question of pecan growing. Mr. F. A. Quinnette is perhaps the largest grower in Louisiana, and I visited his nurseries. Well, we down in Honduras can beat the state of Louisiana on that proposition. Pecans will do well where black-walnuts grow, and we have black-walnuts in my part of the Mosquitia. Besides, we have a better climate and far, far better soil—a sandy alluvian mold, chuckful of humus. And, just think of it, we can plant as many pecan-trees with our cacao-trees as can be planted alone, and, so, we can make our land produce a full crop of cacao-beans and a full crop of pecannuts.

Banana growing is not much of a propositon if you cannot ship them; but, with shipping facilities, a banana-plantation becomes a splendid possibility. Bananas, as a starting crop, produce their first fruit one year after planting. You can plant one hectar to bananas for about $50, including clearing and everything, inasmuch as you have the banana-plants ready to hand from the wild bananas already growing there. Once in bearing, you get a crop every week, which means a weekly income. It is never as big and good a business as that of cacao and pecan growing, but, it is good for the man with limited or no capital.

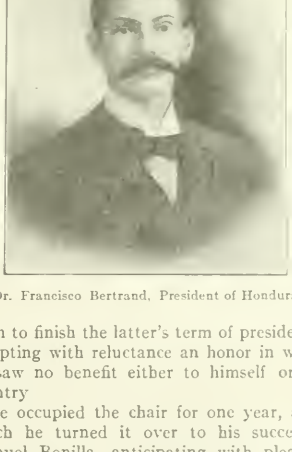
Now, as to the way of obtaining the land. You should buy at least 100 hectars (about 250 acres), which I can get for you for about $100. This provides also for surveying, attorney's fees, and other legal costs. One-half of this land I should plant to banana and the other half to cacao and pecans.

As I have advised in my first communication, come out, some of you, and look the thing up. But don't all come, as I couldn't feed all of you; besides, my cook would surely go on a strike. She isn't much good, but then—well, she is the only cook in the wilderness and, so, she is, with just reason, proud of being the very best cook to be had.

And now, another topic: That the medical profession is represented all over the world by some of its best men there is no doubt, and that a country needing honest men in politics is apt to seek them among her doctors, is illustrated by the little Central-American republic of Honduras when she held her last presidential election.

Francisco Bertrand of Juticalpa, after graduating from the school of medicine at San Salvador, practiced his profession in his native town of Juticalpa, where, in company with Dr. J. A. Lobo, opened a drugstore.

In the year 1911, during the rebellion of Bonilla against Davila, Bertrand was called



Dr. Francisco Bertrand, President of Honduras

upon to finish the latter's term of presidency, accepting with reluctance an honor in which he saw no benefit either to himself or his country.

He occupied the chair for one year, after which he turned it over to his successor, Manuel Bonilla, anticipating with pleasure his return to his native town and to his profession. But this was not to be; the office of vice-president was created and Bertrand was elected to fill this position, and

upon Bonilla's death in 1914 he again occupied the chair of the first executive.

His natural repugnance to dishonest practices soon roused the man to action, and he has stood forth, a veritable gladiator in his fight against the monstrous combines of foreign capital and native disloyalty, for the rights of his people.

When the people expressed a desire to send Doctor Lobo, the professional partner

Dr. J. A. Lobo

of Doctor Bertrand to Congress, the latter, seeing the necessity of some honest element in that body, urged him to accept, though the closing of their joint drugstore meant a very severe financial loss to them, since both are poor men.

Bertrand's almost superhuman fight against the trusts and for honest politics has impressioned the people to such an extent that before his term expired he was nominated by the different political parties who buried their hatchets and, despite the combined efforts of his enemies, Bertrand was unanimously elected constitutional president of the republic, in October 1915, and took possession of the chair again on the first day of February, 1916, for the term of four years.

It was then that the enemies of right showed their fangs and sharpened their claws. A revolution organized in the United States was imminent and, as honesty was a quality necessary to save the country, governors and military commanders were changed all along the Caribbean coast, the part most exposed.

Doctor Lobo, financially ruined by his acceptance and election to congress, after the expiration of his tern was about to open again a small drugstore in Juticalpa, but when the president called him he accepted the post of military commander of Iriona, a seacoast town of only ten houses counting in the huts of the Caribs, a desolate place, but important as a strategic point for the disembarking of men and arms.

President Wilson, about this time sent the U. S. Ship Marietta on a pleasure trip to the Caribbean sea, and as a result, a steamer said to be loaded with war material was captured and a company doing business in Honduras and other central and South American countries received a severe reprimand from Washington.

President Bertrand, fighting for the rights of his people nevertheless sighs for his happy home and his patients by whom he is beloved, and Colonel Lobo expounds to me with enthusiasm his plans for the future, when he will open up his drugstore again.

Yes, oh yes, they are poor both of them, but on the other hand the admiration and love of the people is with their doctors, and I feel proud of being a doctor when we have men like these in our fraternity.

A. R. Hollmann.

Tegucigalpa, Honduras.

[We strongly advise anyone thinking seriously of investing in Honduras to investigate the situation in person before doing so. The profits on paper rarely turn out as expected. We can all recall the wonderful returns promised in oranges, figs, pecans, and other "bonanza" crops in this country—and we know how few have realized them. Read Doctor Mayo's article published last month, and you will understand some of the difficulties and problems of tropical life. Weigh these carefully before cutting loose from practice and friends in "good old United States," even to join such a good man as Doctor Hollmann. We have heard from several physicians who are considering the advisability of making a trip to Honduras. If you would like to join them, communicate with Dr. H. J. Abele, 3369 West 25th St., Cleveland, Ohio, or Dr. Axel Aberg, San Luis, Colorado. Doctor Hollmann has returned to Honduras, and, for the present, is at Tegucigalpa, where mail will reach him.—Ed.]

TWO CASES OF TYPHOID FEVER

I wish to report my experience with two cases of typhoid fever, that may be of interest to the profession at large.

Case 1. The patient, a boy of eighteen, a high-school student first was seen at his home

on August 25, 1916, and the following facts were elicited: He had been doing heavy work in a sawmill during vacation just closing and for the past week had had headache and indefinite pains in the back and skeletal muscles, felt listless and sleepy and tired easily. The severe headache had forced him to quit work and go to bed. There was moderate coughing, but only little sputum. He felt cold at times, chilly but no frank chill. I could hear a few rales in the upper part of the chest; his temperature (taken in the mouth) was 101°F.; the heart-sounds were normal. A diagnosis of grip was made and the usual treatment instituted.

The patient was not seen again until August 30. The cough was gone, but all the other symptoms were accentuated. The bowels were regular; few rose-spots were visible on the upper abdomen; the pulse was 90; the temperature was 102 degrees; the tongue was coated; the breath foul; there were sordes upon the lips; he was sleepy. A Widal test indicated that we had to do with typhoid fever; the state board of health laboratory reporting on September 1, that this test was positive 1:50. On September 6, when I paid my last visit, the patient's pulse was 70 and his temperature normal. He had had no fever for two days, was feeling well, and was sitting up in the chair. On September 15, he went to school and has since been attending regularly.

Case 2. The patient, aged twenty-two, also a laborer in the sawmill, boarded at the same house as the boy of the preceding case, and was first seen on August 30, at my office. I was not told at that time where he lived. He had been sick for several days, complained of severe headache and backache, said he had fever and was very somnolent most of the time. His tongue was coated; had foul breath; bowels were regular (once daily); had no chills, but felt chilly; coughed a great deal and raised sputum with difficulty. His pulse was 95, his temperature 103°F. I told him he had grip and to go to bed. The usual treatment was prescribed.

The patient was seen again on September 5 and found to be worse. His eyes had a heavy, dull look; the cough was about the same; pulse, 100; temperature, 103.5°F.; sordes. I now diagnosed typhoid fever, took blood for the Widal test, and sent him to the hospital. On September 6, the state board of health laboratory reported the Widal positive 1:50.

On September 18 the patient left the hospital and walked home, a distance of one mile. He had had no fever for a week, had been on full diet for four days, and walking around for two days. On September 25, he went to his regular work.

Neither of these two young men had ever had typhoid fever nor had they been vaccinated against it. Neither had any delirium or tympanites. One lost 6 pounds, the other lost 10 pounds. Both began to improve from the start and so continued into convalescence. No complications developed. Patient No. 2 was put in a ward in the hospital where another man from the same boarding-house was down with typhoid fever. This man had been sick about three weeks and his sickness ran the same typical course that I observed in the hospitals of St. Paul, Minneapolis, and Duluth some ten years ago, where from 10 to 30 cases could be seen at a time during the autumn and spring of the year. This particular patient was toxic, wildly delirious, rampaging about the building with clothes torn off, wasting away; his stools were foul and he had a fearful breath. He was starved. About all the "nourishment" he got consisted of salol, phenacetin, sulphocarbolates, oil of turpentine, and saline purgatives. He was a sturdy fellow and, thanks to this fact, probably, after lingering along, teetering between life and death for a week or more, he managed to pull through leaving the hospital after seven weeks, a wreck of his former self. Then he went back to his folks, on a farm, to recuperate, but in all probability, will not be able to go to work for many weeks to come.

What is the answer? What is this wonderful cure that I have discovered? I will tell you—and I claim no originality for this method of treatment, which I have carried out successfully for the past seven years, in many cases, and with one death among them all. The patient who died, I will add, had a severe attack and was well along in the disease; he was starved and delirious when I first saw him. He would take neither food nor medicine, even from his brother, but when these were introduced with the stomach-tube, he would tickle his throat with his finger until he vomited all medicine, and would forcibly expel any nutrient enema as soon as it had been administered.

Briefly, my treatment is as follows:

The patient receives the usual care as to toilet, and so forth, that is ordinarily given. He gets a tablet containing calomel and phenolphthalein, of each 1-10 grain, until ten or fifteen doses are given, these followed by aromatized castor-oil, if necessary, to

ensure a thorough cleanout. Then I start in with copper arsenite, 1-50 grain (1 granule) every four hours, and calcreose (Maltbie), 4 grains every four hours; alternating the two, so that the patient receives medicine every two hours. At the end of twenty-four or thirty-six hours, if no appreciable drop in temperature or amelioration of symptoms are apparent, I increase the copper arsenite to 2-50 grain, but the calcreose is not changed. If the temperature goes above 102.5°F., I order cool sponge-baths to last not to exceed fifteen minutes.

As long as the temperature is 100 degrees or above, I limit the food to buttermilk, sweet milk, custards, milk-toast, clear soups, orange-juice, lemonade, and well-cooked cream of wheat or oatmeal with milk and sugar to taste. Meat is taboo. The patients will not starve on this diet, and I have never seen bad effects follow this regimen. Blancmange, gelatin puddings, rice, cornmeal mush, and such like may, from time to time, be added to the foregoing list, until the patients are eating anything in reason, except meat, pickles, and any food known to be indigestible.

Furnish a mouthwash composed of the antiseptic liquor (U. S. P.) and a little solution of peroxide of hydrogen and compound tincture of cardamom and see to it that the teeth and tongue are thoroughly brushed with it after each meal. An alcohol or saturated brine-rub once daily at least is refreshing. Attention to the small things make for comfort, and any effort in this direction is appreciated by most patients.

The copper arsenite, of course, is not a new remedy; however, it is much neglected, although a most valuable one. Wood, in his "Therapeutics," merely makes mention of this drug as being Scheele's green and containing 54 percent of arsenous acid. So, also, Potter merely refers to it as an ingredient of Scheele's green, mineral green, and paris-green, used as insect-poisons, and adds: "It is highly poisonous. Dose, 1-100 grain daily, in divided doses."

I first saw this copper salt mentioned, as a remedy in typhoid fever, in *The Medical World*, about eight years ago, by an old practitioner. I think his name was Anderson and he practiced in Missouri. I began its use cautiously and sparingly, after reading all I could find about it. However, the indications given in my works of reference were vague and the dosage recommended was infinitesimal. So, I got no results from it. Nevertheless, that old doctor had been so positive in his statements that I persisted in its use, gradually increasing the dose, until, in fear and trembling, I was giving 1-50 grain three times a day. Then it was that I began to note a change in the condition of this particular typhoid-fever patient—the temperature began to drop, the toxic symptoms abated, and then I pushed the dose still further, watching closely for symptoms of arsenical poisoning.

Let me say, right here, that I never have observed any signs of poisoning under my high dosage of copper arsenite, and I have given literally thousands of doses in these past seven years—and not alone for typhoid fever, but for summer complaints, diarrheas, and like conditions, where there was toxic absorption from the bowels; nor have I seen a case where I thought too much of the remedy had been given.

One interesting case I must mention here. On August 11, 1911, a man, walked into the office, complaining of headache and saying that he had been sick but a few days. I found his temperature (by mouth) to be 105.5°F. In the preceding February (the 28th), I had given this man an intramuscular injection of a full dose of salvarsan, for syphilis. (This, as you see, was very early in salvarsan-therapy in this country.) Now, he went through to usual course of typhoid fever, lost 65 pounds, and nearly died, but left the hospital on September 29, after a stay of seven weeks, and picked up rapidly. This is the only typhoid-fever case, so far as I can remember, in which the subject did not respond promptly to the copper-arsenite treatment, and it is barely possible that the previous injection of a powerful arsenical compound immunized him to a certain extent against the subsequent treatment with arsenic. If this be so, it will become increasingly difficult after a while to depend upon copper arsenite as a specific in typhoid fever, since arsenic now is being so widely used in many different forms for a variety of diseases.

Now listen: follow Potter and give 1-100 grain daily, in divided doses, and you will join the ranks of the many physicians to whom I have recommended its use, and who say that copper arsenite is no good. But this is my advice:

When treating typhoid fever, begin with the copper arsenite after a thorough cleanout, giving 1-50 grain every four hours to effect, or for twenty-four or thirty-six hours, and then gradually increase the dose to 1-25 grain every four hours, with plenty of water. Alternate the copper with calcreose, which I have been adding during the last year or

two, and which I believe to be an improvement and to act as a synergist. Feed the patient; also keep his bowels clean. Have recourse to the usual hydrotherapeutic measures, if hyperpyrexia occurs. In general, pay attention to the comfort of the patient in matters of toilet, and so forth. After a while, let us hear what you have seen.

ALEXANDER BARCLAY.

Cloquet, Minn.

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[The results secured by our correspondent in these cases speak for themselves and prove conclusively the value of elimination, intestinal antisepsis, and the maintenance of nutrition. In these days, we know that it is not desirable to starve a typhoid-patient and thus further lower his resistance.

There can be no question as to the value both of copper arsenite and of creosote in typhoid fever and other enteric disorders, and the form in which the latter was administered has proven particularly serviceable when such conditions obtain as were present in the first two cases described by Doctor Barclay.

We are given no information as to the character of the stools or the temperature-curve, but, every practician with experience has seen just such a clinical picture, and many times such a patient has been considered as suffering from "abdominal grip" and received large doses of quinine and some coaltar derivative.

Indeed, in the mild or rudimentary form of typhoid fever, early diagnosis always is more or less difficult. Especially is this so when pulmonary symptoms are most prominent, rose-spots fail to appear, and the typical temperature-curve is absent. Moreover, it is in just these cases that examination of the blood proves uninformative.

Improperly treated, of course, more profound intoxication may shortly obtain and the gravest symptoms suddenly present themselves. It is for this reason that the institution of rational therapeutic measures at the very beginning is so essential and, as was pointed out in Candler's article, "The Modern Method of Treating Typhoid Fever," which appeared in the September issue of CLINICAL MEDICINE, the first step should be to administer to the patient 1-2 to 1 mil (Cc.) of a typhoid-bacterin (100,000,000 to 200,000,000 killed bacteria). Every exposed person, should, at the same time be given the typhoid prophylactic bacterin.

The basal internal treatment should invariably be more or less along the lines followed by Doctor Barclay, that is, repeated small doses of calomel followed by a laxative saline and the administration of an effective intestinal antiseptic. We have found a combination of calomel and podophyllin more effective than calomel and phenol phthalein, and the sulphocarbolates, in 10 to 20-grain doses every three or four hours, preferable to copper arsenite alone.

As not infrequently happens, constipation may be a marked symptom in the early stages, and here the sulphocarbolates of calcium and sodium should be administered, without the zinc and the copper salts. Liquid paraffin may also be administered with advantage, the film of oil deposited along the intestine exerting a distinctly beneficial influence.

Not very long ago, an old physician stated to the present writer that for years practically all his typhoid-fever patients had recovered in three weeks under a course of calomel, creosote and "vaseline." However, whether the practician regards the sulphocarbolates or creosote as the ideal intestinal antiseptic, the fact remains that, where typhoid fever is even suspected, bacterins should be administered promptly. Whenever this procedure is followed, the disease-process certainly either will be inhibited or so mitigated in severity as to render the illness a minor affliction.—ED.]

GLONOIN AS AN AID TO PARTURITION

For the meeting of graduates of a certain medical school, held at St. Louis a few weeks ago, each member was asked to bring a paper on some certain or specific drug that in their hands had proven a success in a series of given conditions. This is a "back-to-the-soil" movement, calculated to bring out the result of intensive practice. Having received great assistance from the "family," I feel it my duty as well as pleasure to add something to one general storehouse of relief-giving agents.

During the early days of my career, being called to a case of parturition, one due to having loved too well, but not wisely, I found a young woman, all alone, in the throes of the first stage; which had been long and severe. She was almost in collapse from fear, pain, and excitement; her heart action was weak, skin was cold. The labor-pains grew less intense as events progressed; the patient was unconcerned, unable (and unwilling) to assist; she tossed from side to foot of the bed, absolutely terrorized. After getting her to calm down and gaining her confidence, I proceeded to make an examination. Then, finding every-

thing normal and a good presentation, I gave her 1-150 grain of glonoin, in order to steady the heart and improve her circulation, so as to warm her up.

The result of this dose of glonoin really was magical—indeed, it did more than I was looking for or knew that it could do; for, the the pains became more regular, firmer, longer, and rapid. In a few minutes the woman asked what I had given her. I wondered why. She said, "That little thing you gave me made those pains worse and more of them." In a half hour, I gave her another dose by mouth and, after some little time, she was comfortably delivered.

Ever since that, I have used glonoin, in 1-100-grain doses by mouth, in all cases of confinement where I have encountered similar conditions, and have found it to give the best results where you have a terrorized patient, with pains lax, nervous and cold, doesn't care what happens, wornout, and wearing out everyone else. I have failed to find any mention of glonoin as being a help in parturition, and in conversation with fellow practitioners I find that it is new to them. I report this, to hear from the "family."

L.

———, New Mexico.

[This is a valuable suggestion, deserving of trial and comment. We wish we might receive fifty such helps every month.— Ed.]

RHUS-POISONING CURED AND PREVENTED BY CALCIUM SULPHIDE

I have read with considerable interest Dr. J. M. French's article in the September Clinic (p. 753), in which he relates how the sprouts of poison-rhus, when eaten will render any person immune from being poisoned by this plant. To this I wish to add that I know, from my experience, this to be true. However, there is one drawback: one can not always obtain the crown-leaves, while, moreover, some people are afraid to eat them, and will not. Consequently, your readers may be interested to hear what, by accident or, rather, by the pressure of emergency, I learned this last summer, for, it may prove useful information, and I hope that it will receive extended trial, as my own experience is not sufficient to establish my observations as a fact.

Last June, a woman stopped me as I was passing her house on the country road and asked me to give her some medicine for her poison-oak poisoning. There were vesicles on her arm and an erysipelas-like eruption on the face. It so happened that I had none of the drugs with me that I had been in the habit of using for this affection; however, as I was looking through my case, the thought struck me that calcium sulphide might be worth trying. Acting upon the idea, I gave her a supply of the 1-6-grain granules and told her to take three of them first every hour for four doses and then, every three hours, and then to telephone me next morning as to her condition.

Sure enough, in the morning the woman reported being much improved, there being no more burning and itching, and she believed the blisters were drying up. I told her to reduce the dose to two granules every three hours and continue thus as long as needed. On the third morning, she reported being cured. I have had two other like cases, these being seen at the first appearance of the burning and itching, and they were relieved by the same course of treatment. The calcium sulphide seems to arrest the progress of the process in a few hours.

And here is another observation worth taking note of: The first woman treated tells me that she has been exposed several times since then, but has escaped being poisoned. She now believes herself to have become immune. One of my sons, who has always been susceptible to rhus-poisoning, worked among it during the past month, but as a precaution (on "suspicion"), during that time took two granules of the calcium sulphide every two or three hours, and he escaped an attack. I think there is something here worth inquiring into.

A. C. Reppeto.

Banks, Ore.

POISON-IVY: AND EXPERIENCES WITH POISON-OAK

Reading the articles in your journal regarding the treatment of poison-ivy, I am reminded that as a child in California, when four or five years old, I was twice poisoned with poison-oak, but when yet a school-boy, I learned that eating the plant was a preventive, and, with other boys, practiced chewing the leaves and twigs. So, I grew up considering myself perfectly immune, and I had no more fear of poison-oak than I had of any other plant. As a matter of fact, I have repeatedly gone out on a warm day and dug up poison-oak on my place and the only effect I ever experienced was, one time, the appearance of a few vesicles on the wrist, at

the margin of the sleeves, after having gathered and burned the poison-oak and being exposed to the contact and the smoke while being in perspiration.

As I grew up, I came to think of the chewing of the leaves as a prophylactic, as a mere superstition and my immunity as a mere coincidence, so, when later I was connected with one of the California sanitariums, where the poison-oak grew plentifully, and saw numbers of victims, I did not dare to advise them to chew the plant, fearing that they might contract a fatal edema of the glottis. From this, you may understand, that I was intensely interested to learn that chewing toxicodendron-leaves has been found to be a preventive here in the East, as told in Doctor French's communication in your September issue of CLINICAL MEDICINE.

G. H. HEALD.

Washington, D. C.

IRRITATION OF EYE FROM EMETINE.—THE CURE OF GOITER

Doctor Blue, of Memphis, has issued a warning to physicians, to be very careful not to allow any emetine-solution into the eyes; this accident, in his experience, having twice been followed by a very severe reaction. There is no pain at first, but in about eight hours there occurs an uncomfortable "scratchy" feeling, intense photophobia, and lacrimation, together with conjunctival and some circumcorneal injection. This condition lasted about two days.

Here is something that may interest some of the readers: Thus far, I have cured all cases of goiter in young people and relieved it in middle-aged patients by alternating, weekly, calcidin, in 2-grain doses four times daily, and arsenous iodide, 1-64 grain after meals.

F. J. BURNS.

Annapolis, Ill.

BRIEF NOTES, CULLED FROM OUR EXCHANGES

Adrenalin and salicylic acid act as vasoconstrictors.—*N. Y. M. J.*

For acne, berberis four times a day; and enough alkali to keep stomach sweet.—*Ellingwood's.*

Nicotine, adrenalin, histamin, morphine, strophanthin, and barium chloride act as vasoconstrictors.—Berezin, *N. Y. M. J.*

Antipyrin has no action on the cerebral vessels of a normal animal, but acts as a vasodilator in the presence of fever.—*N. Y. M. J.*

In considering substitutes for morphine, do not forget our old friend atropine. It is the best antispasmodic we have.—*Critic and Guide.*

Experience has conclusively shown the futility of looking to the medical profession for the solution of the narcotic evil.—C. E. Terry, *Am. J. Pub. Health.*

Hyoscyamus is a great pain reliever, which does not interfere with secretion as much as morphine; also a vasomotor stimulator.—Alter, *Med. Summary.*

Chloroform, amyl nitrite, strophanthin, caffeine, phenocol, p-aminophenol, pyramidon, cocaine, and chloral hydrate dilate the cerebral vessels.—*N. Y. M. J.*

For female gonorrhea, calcium sulphide, a grain every four hours. Swab vagina thoroughly with permanganate, then irrigate with it daily.—*Ellingwood's.*

For persistent headaches, monobromated camphor, 2 grains four times a day. If acidity dominates intestinal tract, sodium sulphate, 5 grains three times a day.—*Ellingwood's.*

Alcohols, all the synthetic hypnotics, ether, chloroform, acetone, caffeine, camphor, atropine, antipyrin, quinine, and salicylic acid, act as vasodilators.—Berezin, *N. Y. M. J.*

For sour stomach, flatulence, heartburn, and indigestion, E. H. Winkler (*Medical World*) uses the combined sulphocarbolates of zinc, soda, and lime.

When we get away from the idea of standardizing the dose, we shall be in a better position to cure our patients.—Duncan, *Western Medical Times.*

Anterior poliomyelitis: To reduce cerebrospinal congestion, the best remedy in the entire materia medica is gelsemium.—W. A. Marner, *Medical World.*

Several clinicians report good results, in whooping-cough, from helenin, a principle derived from elecampane—1-60 grain every two hours.—*Medical World.*

Despite the authorities, who always advocate the newest thing, codeine is a better cough reliever than heroin, and this excels morphine.—*Medical World.*

Arbutin, the active principle of uva ursi, is one of our best urinary antiseptics and toners of the mucosa of the urinary tract; 1-2 to 1 grain several times a day.—*Critic and Guide.*

R. C. Coburn says that, if morphine and atropine are given before operations, they should be administered one-half hour before operating; morphine and scopolamine an hour before.—*Med. Record.*

Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

(*Continued from November issue, page 959*)

NOT to treat present symptoms, allowing them to take their course, forms an important part of the negative side of applied therapeutics, as in the case of infective and uremic diarrheas, the asserted manifestations of gout and so on. These and similar cases form a class of reactions that favor restoration of balance and tend to health. With these, we interfere at our peril; and they are to be disturbed only when circumstances remove all doubt as to the wisdom of such interference.

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The occasion for positive therapeutics arises when, for any reason, the recuperative powers of the system itself have become inadequate; when the potencies that make for normal balance are so weakened that they cannot overcome the forces of the disease. It is at this point that we are obliged to resort to extraneous influences, bringing into action new powers that will work in the direction of restoring balance.

If the human organism were constant in its manifestations, never varying in its response to drug action, this would be a very simple matter. For then, in any specific disturbance, we merely should give the indicated remedy (for, experience has demonstrated that, in general, there exist specific relations between certain drugs and certain diseases), and rest secure in the knowledge that our patient already was on the road to quick and certain recovery. But in fact, this mode of therapy is not possible and, if it were, the practice of medicine would be merely a skilled trade, and not a profession.

The body on which the drug is to act is a highly complex organism. No two persons respond alike to the same remedy, and the same person does not at all times respond in the same way. Moreover, there are points of vantage, in time and place and mode, for the application of remedies, as I heretofore have pointed out, that must be learned and utilized, these involving the personal equation both of physician and patient. This it is that levates the art of healing above empiricism and gives it a reason for being.

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Interference.—Certain diseases, especially of the infective class, follow so definite a course that some physicians have held that, at most, their efforts should only aim at palliation; that the ball, once set arolling, will finish its journey according to rule, that all attempts to shorten it will be futile, and that suppression is not to be thought of; as for instance, in the case of scarlet-fever, measles, and typhoid fever. Still, nothing in nature runs its course without reference to environment, and it is but reasonable to suppose that, if our attempts to modify or control any disease have been unsuccessful, it is because we have not taken the right way—a way which does exist, and which may be discovered by intelligent persistence and perseverance.

Perhaps the phrase, "Begin in season," may prove the entering wedge to split the root of more than one disease now considered uncontrollable. The life of a disease, as of an individual, travels in a cycle, beginning feebly, gaining strength, declining, and in due season fulfilling its destiny and dying out. If, then, it could be attacked in its feeble, unresisting beginning, it would be overcome with far less effort than if the struggle be delayed.

A good example of the truth of this doctrine of interference, and its effective application, is seen in the case of epilepsy. When the aura gives warning of the starting of a train of events that will culminate in a seizure, then a proper stimulus (such as an inhalation of ammonia or swallowing a mouthful of salt), given during these early manifestations, it has been found, often will suppress or cancel the subsequent stages. So numerous other familiar illustrations might be adduced, all serving to emphasize the value of interference at the earliest possible moment.

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Reinforcement.—In contrast with the principle of interference, yet, working in harmony

with it, stands the principle of reinforcement. The forces of the human organism, like all nature's forces, ebb and flow, now setting toward health and now toward disease. In this phenomenon of periodicity, lies the physician's prime opportunity; for, a study of these tides will enable him to take advantage of the healthward impetus, by reinforcing it with his remedy, and will admonish him when effort on his part would be vain or worse. Thus, the intelligent physician will administer the soporific at the usual time of the patient's sleep, when the trend of the body's habit is in that direction or he will give the digestive stimulant just before meals, when hunger is already stimulating the gastric secretions.

This tidal phenomenon is a sufficient explanation of many cases where drugs have either operated contrary to or divergent from their customary manner. The practitioner has failed to take advantage of the aid of the physiological wave; he has, perhaps, gone directly contrary to it.

It is as important a principle of therapeutics to assist by reinforcement the healthward set of the body's powers as it is to antagonize by interference their downward trend.

Thoreau never said a truer word than when he admonished, "Let not to get a living be thy trade, but thy sport." But, the thing is, how one can do that. Many whom I have known have advised young men to take up any kind of business but that in which they themselves are engaged. These advice-givers "hate" their own occupation; no matter what it may be, it is cursed: "all hard work little money, anxiety, disappointments, grovelings, bound to be a failure except perhaps for the few favored ones who are fostered by luck or too dishonest to fail." One man told me that in his early days he was engaged in the lumber business and that this by its trials nearly "finished" him in ten years. Then he went into the coal business, five years of which would certainly have ended him. Just before the end of that period though he shifted to selling real estate which was worse than either of the others—worse than anything else could be. But, then, he supposed he would have to stay in it now, because he was too old to take up with any new vocation. I asked what he thought he would like to do and got for reply "Well banking, or maybe brokerage." These, he averred, always paid, the hours were short, the work was genteel and easy, bankers and brokers were highly thought of.

Since that conversation, I have become personally acquainted with a number of bankers and brokers, and I find that a goodly proportion of them are no more satisfied with their respective occupation than this man was with his. One of them wished to be a painter, but never had the opportunity. Another wanted to make things with his hands, to be a creator, to build ships or railroads or maybe fine furniture, but somehow it had never come around that way for him. Still another had "just drifted" into a bank, as a boy, and had staid there; but, really, he would rather be in almost any other occupation.

I suppose it is so with all of us who make the getting of a living our trade, and not our sport. The fact is, that it is our own selfishness, our fear and greed and meanness, that afflicts us, and not our business. With Thoreau's principle to guide him, a man can follow any occupation whatsoever, and find joy in it, besides a living; without it, he must go every gait but the one he would.

Happy he whose daily work is recreation.

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If a man is in business, he doubtless is more justified in calling attention to the excellence of his wares than would be a society man in extolling his good breeding, or, if a physician, to advertise the greater number of his cures. From one point of view, self-exaltation may be taken as a "bully joke"; and I doubt whether most business men who have succeeded in a large way have not in their self-aggrandizement felt some of the humor of the thing. Otherwise they would hardly have the assurance to indulge in it. At any rate, they must have felt it at first, but custom may have changed them—and it probably has—so that the humor of it is lost sight of after awhile and only the consciousness of the struggle for existence remained. But what a picture it becomes then! One would think a man would rather starve to death like a gentleman, or live like one on a dollar a week if need be. It reminds one of that ragged, illiterate scarecrow of a rimester, O'Kelley, who, when Walter Scott was traveling in Ireland, approached him with this effusion:

> Three poets of three different nations born
> The United Kingdom in this age adorn:
> Byron of England, Scott of Scotia's blood,
> And Erin's pride—O'Kelley, great and good.

and for which he received, in recognition, precisely what his supposedly delicate compliment called for—a small piece of money.

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Some of us are so anxiously charitable that at times we neglect the cultivation of our own

affairs in order to inquire into the needs of our neighbors. I know one woman who was so desirous of doing good that she gave a loaf of cake (burned a little on the bottom) to a poor mother of a family, who, she was sure from shrewd observation, hungered for something of that sort. The poor mother of a family told me that she never had eaten anything so cheap as that cake, and didn't propose to begin then; and before my eyes put it in the swill barrel.

Once a man came to me with a subscription paper to buy flannels for a boy who seemed to him to be in urgent want of them, and lo and behold, it turned out that the boy had three suits of better underclothing than I could afford to wear.

Let us be charitable, by all means, for charity is sweet and high and twice blessed. But we need not be too anxious. God is not dead yet and knows what his children must have. It requires wisdom to exercise charity without "peeping and botanizing," to be helpful without smallness. Some of us do not give with high motive. We have our reasons.

> Poor little Miss Charity Bowers
> Was fearfully bothered by showers.
> "If they'd only hold off,"
> She declared with a cough,
> "Until I have watered my flowers."

We are continually misunderstanding one another's plainest spoken words.

Once in a parlor talk on "Cause" I referred to Herbert Spencer's views of my subject. I said I would not quote his words, that would require too much time, but would state his principle simply, in my own way, thus:

"A man dies. What is the cause of his death? Cancer. Yes, but what caused the cancer? Eating tomatoes. But all people do not eat tomatoes, what caused him to? He liked them. But everybody does not like them—what caused him to like them? His constitution. What caused his constitution? His ancestors. What caused his ancestors? Well, protoplasm. What caused protoplasm? The sun. What caused the sun? *We do not know.* The cause of the man's death, then, we do not know, according to Spencer, and we ascribe it to cancer because cancer happens to be the nearest link in the chain of events which bound him to the real cause, which we do not know. This is the agnostic attitude. We do not know cause."

I did not at the time think it necessary to explain more carefully than I had done that the illustration was a supposititious case, not a real one, having philosophy and not medicine for its aim. That was seven years ago. The other day a woman insisted with as much positiveness as good breeding would allow, that at that lecture she had heard me declare that eating tomatoes would cause cancer, that I had cited Herbert Spencer's philosophy in proof of it, and had even told of a man who contracted cancer by eating them!

If our friends, who really wish to understand, come no nearer than this to it, maybe we can afford to give the benefit of the doubt to our enemies, who appear maliciously to misunderstand us.

PRACTICAL POINTS FOR DECEMBER

Local anesthesia is especially indicated in septic cases. The preliminary use of morphine with atropine is as essential as in general anesthesia.—Jacoby, *Texas State Journal of Medicine.*

Infantile diarrhea:—If there is much vomiting, with pain and tenesmus, clear the bowels with calomel and castor oil. Give copper arsenite, 1-1500 grain every half hour, with gelseminine hydrobromide, 1-2500 grain. —Smith, *Medical Summary.*

Condylomata:—The treatment I have found most simple and effective and free from objection is, the application of lactic acid.—Watson, *Medical Standard.*

Condylomata:—Try applying powdered Bulgarian bacillus tablets.

When you want to acquire a fat crop of the other fellow's ear, eye, skin, throat, and other choice diseases, patronize the common towel and the public drinking cup.—Corwin, *Clean Living.*

When you've worked hard and tried to do your best, it is mighty hard to have to come home and listen to the publication of the "Daily Whine." Some men prefer the saloon.—*Clean Living.*

For irritative hacking cough, useless and exhausting, dissolve 1-64 grain codeine on the tongue every half hour for three doses, restraining impulse to cough.—*Medical World.*

Treatment of rheumatic iritis consists in the early and frequent use of atropine and dionin, with hot moist applications, and internally sodium salicylate in 5- to 10-grain doses.—W. L. Rhodes, *N. Y. M. J.*

Delphinine may be employed in tetanus, motor excitement, asthma, spasm in general; it lessens sexual irritability, conserving sexual strength. It has acted as a vesical tonic in the debility of old age.—Waugh, *Ellingwood's*

Among the Books

NORTHCOTE: "SEX PROBLEMS"

Christianity and Sex Problems. By Hugh Northcote, M. A. Second edition, revised and enlarged. Philadelphia: The F. A. Davis Company. 1916. Price $3.00.

It seems to be characteristic of the American people that they try to settle every kind of social problem by legislative means and only investigate and study the question thoroughly after passing laws which very often afterward are found to be unwise, if not impossible of enforcement. Among many other matters, the problems of the sexual life outside of the marriage relation have become subject to much hasty legal tinkering, and the results are far from having solved the difficulties involved. Indeed, in many instances, matters are worse now than they were before; for all that they may not be quite so evident. The author of the book puts himself on record as follows:

"Methods of coping with the huge evil of sexual impurity, by legislative and other measures, have usually the fault of beginning to work at the circumference of the phenomenon, on the false theory that the center and heart of it can thus be reached. To suppose that adequate remedies of this class of evils will be found in clearing the streets of children and young people after a certain hour, in getting up entertainments, checking the sale of sensuous pictures, and promoting other surface measures, is, to fall into a fatuous error. It would be as rational to think that we could curb the violence of a volcanic eruption by carting away a little of the refuse and scoria on the outskirts of the scene of disturbance, while the cone in the center, waxing ever hotter and more furious, continued to discharge vaster supplies of fiery matter."

Accordingly, the author has set himself to obtain, first of all, a complete and truthful understanding of the problem under discussion, without which any suggestions looking toward reform would be futile. The twenty-four chapters in which he examines sexuality in its various aspects are introduced by two that deal with a general discussion of the topic; after which the author enters into the heart of the matter by beginning his studies with an investigation of sexuality in children and carrying this through the school-age to full maturity.

The author's views and statements are sound and conservative. He does not, for instance, fall into the error of so many writers on the subject of illicit intercourse, who assert vehemently and without qualification that absolute continence is possible—merely because they, themselves, have passed the years of storm and stress and their own fires now are only smoldering gently, if they are not completely burnt out. Nor does the author advocate the opposite idea, that sexual continence is injurious and that intercourse is required for mental and physical health. Rather he attempts to qualify these opposing views by attending circumstances and to counsel moderation in the matter of judgment. His study of the sexual problems confronting society is characterized by evidences of wide reading and deep thinking, and, in the opinion of the Reviewer, this book adds an important document to the literature upon the subject. Above all, it is absolutely free from everything directly or indirectly salacious, although the discussions are frank, but entirely dignified in language and free from every bias or suggestiveness.

FRIESNER AND BRAUN: "CEREBELLAR ABSCESS"

Cerebellar Abscess: Its Etiology, Pathology, Diagnosis, and Treatment, Including the Anatomy and Physiology of the Cerebellum. By Isidore Friesner, M. D., and Alfred Braun, M. D. With 10 full-page plates and 16 illustrations in the text. New York: Paul B. Hoeber. 1916. Price $2.50, net.

Diseases of the cerebellum are peculiar, in that they give rise to disturbances in locomotion. Some—for instance, cerebellar abscess—are liable to occur in children, and it is the general practitioner who sees these cases early and upon whom their timely recognition involves. It is necessary, therefore, that the symptoms and also the causes of diseases of the cerebellum be understood. For this reason, a work like the one before us.

is of service to every practitioner, even if he be not in position always to undertake the necessary surgical measures for the relief of the disorders diagnosed.

ALBEE: "BONE-GRAFT SURGERY"

Bone-Graft Surgery. By Fred H Albee, A. B., M. D., F. A. C. S. Illustrated. Philadelphia: W. B. Saunders Company. 1915. Price $6.00.

Among the many triumphs of aseptic surgery, those which have made possible conservative and restorative plastic operations on the bones by no means are of least importance. In the matter of bone-graft surgery, Doctor Albee has done, perhaps, more original work than has any other surgeon, and particularly his brilliant inlay bone-graft method is of service to orthopedists in restoring deformities as well as in permitting the healing of many forms of fracture that otherwise would fail of success. Doctor Albee's work is an important contribution to surgery. The book is well written and splendidly illustrated.

DAVISON AND SMITH: "AUTOPLASTIC BONE-SURGERY"

Autoplastic Bone-Surgery. By Charles Davison, M. D., and Franklin D. Smith, M. D. Philadelphia: Lea & Febiger. 1916. Price $3.50.

Somewhat smaller than Albee's book on bone-graft surgery, this work by two Chicago surgeons likewise promises to fill an important place in surgical literature. The related subjects are treated in a manner that testifies to a wide personal knowledge and experience on the part of the authors, of the subject.

BACH: "ULTRA-VIOLET LIGHT"

Ultra-Violet Light by Means of the Alpine Sun-Lamp. Treatment and Indications. By Hugo Bach, M. D. New York: Paul B. Hoeber. 1916. Price $1.00.

Within recent years, the method of heliotherapy has recorded remarkable results, more particularly in certain forms of disease that hitherto came within the province of the orthopedic surgeon; and, in our country, it is particularly Guy Hinsdale whose contributions to medical literature (for instance in the *Interstate Medical Journal* for March, 1914) served to popularize this procedure.

The impossibility, in many localities of obtaining a sufficient amount and degree of direct sunlight caused investigators to look for substitutes, and the Alpine sunlamp, as a source of artificial sunlight, has secured an undisputed place in practice for the purposes of making available for the treatment of disease the ultraviolet rays that are the active agent in heliotherapy.

Doctor Bach's book provides a very acceptable guide for the many uses to which the "artificial sunlight," as derived from the Alpine sunlamp, may be put, discussing its employment in many skin diseases, in tuberculosis, wounds, and various other affections, in short, wherever exposure to direct sunlight has been found of value.

BAUGHMAN: "DISEASE IS SIN"

Disease Is Sin. By G. Llewellyn Baughman. Kansas City (Mo.): John A. Riley, publisher. Price $1.00.

Although the title of this little book reminds one of Mrs. Eddy, it would be a mistake to assume that the author is a "healer." Far from it. He is a physician who believes in treating disease, primarily, by "fasting and prayer"; but he also wants to make sure that the intestinal tract is clean. In short, he preaches the gospel of "clean out, clean up, keep clean," physically, mentally and morally. And, after all, in a large number of cases, this gospel comprises "the law and the prophets."

HEWAT: "EXAMINATION OF URINE"

Examination of the Urine and other Clinical Side-Room Methods. By Andrew Fergus Hewat, M. D., Ch. B. Fifth Edition. New York: Paul B. Hoeber. 1914. Price $1.00.

A true "pocket-edition," this tiny, 3 by 5 inches volume, of 199 pages of text furnishes information on the examination of urine, blood, sputum, pus, gastric contents, and feces. The subjects are discussed in sufficient detail to be instructive, and this little book undoubtedly can be of much value for ready reference.

"DYKE'S AUTOMOBILE AND GASOLIN-ENGINE ENCYCLOPEDIA"

Dyke's Automobile and Gasolin-Engine Encyclopedia. Fifth edition, revised and enlarged. Treating on the construction, operation and repairing of automobiles and gasolin-engines. By A. L. Dyke, E. E. St. Louis: A. L. Dyke, publisher. 1916. Price $3.32, postpaid.

The author of this book appears to be of a medical bent of mind; for, in 1900, he published "Diseases of a Gasolin-Automobile," and followed this, in 1901, with his "Anatomy of the Automobile"—overlooking in this, that anatomy should be studied before the attempt is made to diagnose and treat disease. However, the present edition of "Dyke's Encyclopedia" appears to be a worthy successor to and development of all previous publications. It is a large book of 824 pages, containing 2370 illustrations, an automobile-terms dictionary, besides a comprehensive index. There is also a supplement on the Ford, the Packard, and the King cars. Among others, we note a chapter on operating the car, on the care of the car, on the rules of the road, besides a great variety of other useful pointers. This encyclopedia certainly strikes us as being a most complete guide to car owners.

"AMERICAN YEARBOOK OF ANESTHESIA AND ANALGESIA"

American Yearbook of Anesthesia and Analgesia. New York: Surgery Publishing Company. 1915. Price $4.00.

This "American Yearbook of Anesthesia and Analgesia," the first volume of which is before us, is a most worthy undertaking, the purpose of which is, to collect the results of investigations on the related subjects during the preceding year. Many articles on a great variety of subjects of interest to the anesthetizer are presented by authors who have acquired the right to express an opinion, by virtue of long and industrious and special studies.

We congratulate the editor, Doctor McMechan on the result of his undertaking and venture to predict that this and succeeding annual volumes will meet with deserved response on the part of interested surgeons and dentists.

KENDALL: "BACTERIOLOGY"

Bacteriology, General, Pathological, and Intestinal. By Arthur Isaac Kendall, B. S., Ph. D. Illustrated with 98 engravings and 9 plates. Philadelphia: Lea & Febiger. 1916. Price $4.50, net.

The author of this volume, who is professor of bacteriology in the Northwestern University Medical School (Chicago), is an unusually successful teacher of his subject, of which he is, also, an enthusiastic student. His investigations extending over several years have been directed, more particularly, to the chemistry and metabolism of bacteria, especially as manifested within the living body, so that, naturally, his work bears evidences of these researches, in which, in many ways, he is a pioneer No need to say that this latter fact renders Professor Kendall's work all the more valuable, since its teachings enter into the modes of bacterial activity in the infected organism and explain the response of the organism by which immunity is established to a given infection.

An important chapter deals with the bacteria living in the gastrointestinal tract; others consider the practical topics of the bacteriology of milk, of the soil, water, and the air. The theoretical discussions are clear and concise, while Professor Kendall's ability as a teacher is evidenced by his literary style. Altogether, the book is to be recommended cordially.

HUEHNER: "DISORDERS OF THE SEXUAL FUNCTION"

A Practical Treatise on Disorders of the Sexual Function in the Male and Female. By Max Huehner, M. D. Philadelphia: The F. A. Davis Company. 1916. Price $3.00, net.

Among the very many books on sex-matters with which the market is being overwhelmed, those that are really worth while and actually instructive can be counted almost on the fingers of one hand. The book before us belongs to this category. It is written with an unusual degree of conservative inquiry and freedom from personal bias, also out of an evident and wide practical experience.

The author deplores the fact that sexual neuroses are neglected by genitourinary specialists and that neurologists do not pay sufficient attention to the physical aspects of these affections. He attempts to bridge the gap and to render his book of service to both of these specialists, as also to the general practitioner, and, in the Reviewer's opinion, he has succeeded fully, at least so far as the general practitioner is concerned. The author's arguments are characterized by sound reasoning; they are free from assertions for which no reasons are given, and they evidently are the outcome of close observation and study.

As to the question of continence, that much disputed bone of contention, Doctor Huehner holds that continence not only is possible, but that it is not injurious. To be sure, by continence, he means (it must be observed) not merely the abstaining from

sexual intercourse, but the abstaining from salacious thoughts. "Psychic masturbation" is far worse, in his opinion, and far more difficult to treat than is the physical. This volume should be studied by every physician —it is full of important and useful information of the kind that they need for the benefit of their patients and clientele in general.

LEA & FEBIGER'S VISITING LIST

The periodical appearance of physicians' visiting lists is an indisputable reminder of the flight of time and serves to call to mind that a new year is coming. Lea & Febiger's Visiting List is a favorite with many physicians; its serves its purpose well, and has the customary additional information on various topics. If you are in the habit of using this booklet, doctor, better get your 1917 copy now, so as to have it ready on New Year's. It is issued in four styles: weekly, monthly, perpetual, and for 66 patients. Pocket size, substantially bound in leather, with flap, pocket, etc. Price $1.25.

BLAKISTON'S VISITING LIST

Physician's Visiting List, 1917, P. Blakiston's Son & Co., Philadelphia. The regular edition, 25 patients per day. Price $1.25.

This visiting list for 1917 includes an entirely new dose list prepared in accordance with the new United States Pharmacopœia. This will prove an exceedingly useful feature, as there were many changes, improvements in standards, new drugs and other material inserted. Doses are given in both the apothecary and metric systems and the solubility and important incompatibilities when called for.

STITT: "BACTERIOLOGY"

Practical Bacteriology, Blood-Work and Animal Parasitology; Including Bacteriological Keys. Zoological Tables, and Explanatory Clinical Notes. By E. R. Stitt, A. B., M. D. Fourth edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co. 1916. Price $2.00, net.

This book on bacteriology is not merely a theoretical treatise on the subject, but it correlates the facts presented with the clinical problems and conditions in which the laboratory findings are made; and the same is true for the other subjects discussed, such as the study of blood and of animal parasitology.

Doctor Stitt is a teacher in the United States Naval Medical School, a postgraduate school attended only by graduates of high standing, and this book of his has proved to be fully up to the requirements of that institution, so that it may confidently be recommended as sure of proving of service to the practitioner in his laboratorical examinations as well as—and more important — in the interpretation of his findings. The present, fourth edition, constitutes an advance over former ones, in that it takes account of medical progress in the subjects considered. Incidentally, we wish to commend to the user particularly the study of the passages set in smaller type (which not infrequently are carelessly passed over), as being of importance for a full understanding of the subject-matter. The book is practical and brought up to date.

MEDICAL CLINICS OF CHICAGO

The Medical Clinics of Chicago (The W. B. Saunders Company. Price $8.00 for 6 bi-monthly numbers).

Among the interesting cases presented in the September number may be mentioned a case of acute miliary tuberculosis, one of syphilis of the liver, and one of syphilis of the stomach. There also are presented several cases of disease of the nervous system. The number is well up to the customary standard and once more supports what in this department we have said repeatedly concerning the actual and practical value of this form of publication.

FOX: "BACTERIOLOGY AND PROTOZOOLOGY"

Elementary Bacteriology and Protozoology. For the Use of Nurses. By Herbert Fox, M. D. Second edition, revised and enlarged. Illustrated with 68 engravings and five colored plates. Philadelphia: Lea & Febiger. 1916. Price $1.75.

The first edition of this little book was reviewed in these pages some four years ago. In the present edition, some details have been added concerning general disinfection, the transmission of infection (especially with regard to those diseases spread by insects), and the peculiar phenomena of hypersusceptibility. The book is useful for those physicians whose medical studies lie far back and who wish to acquire a working-knowledge of the subject; it also will be of service to nurses who are in need of the kind of information here offered.

Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters

Answers to Queries

ANSWER TO QUERY 6230.—"Keloid." I want to say that I have cured keloid by the compression method; collodion applied over the growth steadily for three months, stopping only for a short time in case pain sets in.

ELWIN D. ROBBINS.

Nashua, N. H.

ANSWER TO QUERY 6223.—"Morphine Addiction." If G. W. S., Mississippi, will take one hundred times the quantity of morphine used by the 70-year-old widow mentioned, dissolve it in as many teaspoonfuls of boiled water as the doses would be for the one hundred days, then have her take a teaspoonful dose and then let her add to the bottle one teaspoonful of boiled water as each dose is taken out, thus keeping the bottle with the morphine in it full all the time, he can cure his patient, and she will never suffer the slightest discomforts during the cure. I have tried it with several addicts and failed in not one.

WALTER MOFFAT.

Grand Rapids, Mich.

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[Most physicians seem to find the gradual reduction method unsatisfactory—but opinions differ. We submit Doctor Moffat's suggestion and ask for expressions of opinion and reports of experience.—ED.]

Queries

QUERY 6258.—"Hodgkins' Disease." J. M. D., New Mexico, has under his care a man of fifty afflicted with Hodgkins' disease, and he asks whether any kind of treatment offers a reasonable assurance of success. Unfortunately, no treatment is known that is particularly efficacious in Hodgkins' disease, or leukocythemia. However, frequent and thorough examination of the blood, as a guide to treatment, is essential. The prognosis must, to a certain extent, be based upon the number of red blood-cells per mil (Cc.), and the appearance of megaloblasts is most unfavorable.

Among the useful therapeutic agents there are, of course, the various reconstructant tonics and hematinics. The combined arsenates of strychnine, quinine and iron, may with advantage, be alternated with nuclein and neuro-lecithin. Liquor arsenii compound (Barclay) also is valuable. Berberine, in full doses,—to contract capillaries and for its action upon the spleen—may, also, prove advantageous. Strychnine and phosphorus sometimes are helpful. Benzol, also, has been used with a certain amount of success. The employment of the x-rays is recommended by some. The various measures may be employed at the discretion of the physician.

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QUERY 6259.—"Premature Alopecia." E. J. H., Ohio, has a patient, male, aged thirty-one, whose hair has recently become hard and dry, as has also the scalp, and a spot the size of a 25-cent piece is bare and smooth. Also, the hair on his face is getting thin in places. Otherwise, the man seems to be in good health. Advice is asked for.

Premature alopecia may be idiopathic or symptomatic. The idiopathic form is very similar to the senile variety and occurs without recognizable cause, beyond hereditary influence. Loss of the hair usually begins at the vertex, although sometimes it starts anteriorly about the temples.

Idiopathic premature alopecia makes its appearance ordinarily between the ages of twenty and thirty-five, and more commonly

in men. The occurrence of this variety is ascribed to the fact that in certain families there is a distinct tendency toward sclerosis of the connective tissue and underlying aponeurosis of the occipital and frontal muscles, in consequence of which gradual atrophic changes in the hair-papillæ take place, and even compression (which reduces the vascular supply). Loss of the hair follows gradually and sometimes rapidly.

In order to arrive at a definite diagnosis in the present case, it would be well to send a scraping from the scalp and some of the hairs about the affected area to a good pathologist, for examination; for atrophy of the hair, especially localized, may be due to a parasitic invasion of the hair itself or of the hair-roots.

By way of treatment, the following stimulating lotion, rubbed into the scalp every second or third night, sometimes is of service:

Resorcin	drs. 1
Quinine (alkaloid)	grs. 15
Castor-oil	mi. 30
Alcohol, enough to make	ozs. 4

In some cases, very good results have been secured by rubbing in, gently, a small quantity of antiseptoil. This should be applied with a piece of cotton wrapped around the finger-tip.

As a matter of course, the condition of the general health of the patient is to be considered.

You will find an instructive article on alopecia in Stelwagon's "Diseases of the Skin."

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Query 6260.—"Retarded Menses." S. W., Oregon, asks us to suggest treatment in a case of retarded menstrual periods. During the past year, the patient, a girl of eighteen, "feels uneasy at the end of the 28-day term, but quiets down again, and the menstrual flow does not occur until six weeks from the previous one. She seems to suffer from congestion of the pelvic organs and complains of pain in her right leg during menstruation."

We should like to know a little more about that pain and wish you would find out whether gentle or deep pressure over the right ovary is painful and whether it produces a "muscular defense." On general principles, an interval of six weeks between periods in a girl of eighteen is not excessive and need not require treatment at all, unless there are definite indications. If the girl is anemic, the arsenates with nuclein will meet the indications. Be sure to maintain normal digestion and elimination. When she gets "restless," as you report, twenty-eight days after the last period, a mild saline laxative may be quite sufficient to relieve the congestion and start the flow. Hot applications sometimes are of value, but, in a case like this one, should be given externally and by no means in the form of douches.

When she experiences the pain in the right leg, is there evident any enlargement, puffiness, tenderness upon pressure or any variation from the normal? If you have further occasion to write about this case (and we hope it will be merely to say that the patient is doing well), please inform us more fully of her general condition.

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Query 6261.—"Calomel and Calx-Iodata Reactions." H. C., Illinois, reports that a druggist was called upon to fill the following prescription: Calx iodata, gr. 1; calomel, gr. 1-2; milk sugar, grs. 3 1-2. Dispense 12 such powders. After mixing the ingredients, the powder assumed a light-pinkish color. The druggist's curiosity being aroused by this change, he added a little water, whereupon the powder turned yellow. Our correspondent now asks: "Have you had any comment to make upon the incompatibilities of calx iodata or any information to offer on this subject?"

As is well understood, mercurous chloride (calomel) is oxidized to mercuric chloride by iodine. If an iodide is present, then the soluble mercuric iodide is formed. The reaction proceeds best in an acid solution.

Iodized calcium (calx iodata), of course, contains free iodine, which, it is believed, is liberated in the stomach. As iodized calcium also contains excess iodides, we are disposed to consider the administration of calomel and iodized calcium together undesirable. The pink color produced was due to the formation of a small amount of mercuric iodide, resulting from the oxidation of the calomel by the free iodine present in the calx iodata. After the addition of water, the calcium iodide present reacted with the calomel and yellow mercurous iodide was formed.

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Query 6262.—"Thyroidal Fistula?" T. H. S., Texas, has under his care a boy nine years old, in whom, the Doctor writes, about three years ago, "a painful swelling of the parotid gland (not mumps, supposedly) appeared, and after a few days the inflammation extended down the side of the neck to the region of the thyroid gland. Then, as it appears, the thyroid gland suppurated and a small abscess followed. Ever since, there has been a fistulous opening into one of the thyroid

lobes (presumably), and every few weeks there exudes a clear looking pus-free serum. Otherwise, the boy is well. He does not seem to have hypothyroidism. He is growing and is apparently normal. What is your opinion about this?"

We wish that you would give us a clearer idea of the exact location of the fistulous opening. It might be well also to have a specimen of the exuding serum examined by a good pathologist.

True thyroidal fistulas, as you know, are extreme raritics, in fact, almost unknown. Congenital fistulas (thyreoglossal) are observed in the median line, that is, between the anterior borders of the sternomastoid muscles.

In the case under consideration, it would be reasonable to assume that some such congenital abnormality existed as an incomplete branchial fistula and, a cyst ultimately forming, infection may have extended into it from the parotid gland, which eventually ruptured outwardly with a resultant fistulous opening. Of course, any of the glands beneath the ramus of the jaw might have broken down and discharged externally. Remember that the parotid glands not only drain the aural meatus, the tympanum, part of the cheek, and the temporal region, and empty into the deep jugular and substernomastoid lymphatic chain, but also have an inner chain (the subparotid glands) which drain the nasal fossæ, the lateral pharynx, and the eustachian tube. At times they give rise to deep pharyngeal abscesses.

If you will study the anatomy of the region and if possible the chapter on diseases of the glands and lymph-vessels of the neck, in Keen's "Surgery" (Vol. III), or the discussion of the same subject in Thomson's "Diseases of the Nose and Throat" or in any modern work of like character, you will, we feel sure, be able definitely to recognize the condition with which you are contending.

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Query 6263.—"Rhamnus Californica for Rheumatism." J. P. N., Oklahoma, has found rhamnus californica very useful in rheumatic conditions. He is looking for information regarding this drug.

Rhamnus californica has been credited with exerting decidedly remedial action in some cases of rheumatism, vague muscular pains, and dysmenorrhea. Of course, it is closely allied to cascara, or, rhamnus purshiana.

Rusby, in *The American Journal of Pharmacy*, has made the statement that rhamnus californica ("California buckthorn," "California coffee-tree") constitutes a portion of some commercial lots of cascara sagrada. It was introduced as a remedy for rheumatism by Webster. The latter says that he has found it effectual also in long-standing and obstinate cases of dysmenorrhea not requiring surgical interference. He does not deem it necessary to give it to the extent of producing catharsis.

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Query 6264.—"A Question on Medical Ethics." H., North Carolina, submits some "professional cards" appearing in local medical and lay publications and asks: "(1) Are the 'ads' from the medical journal in good taste and ethical? (2) Are the newspaper 'cards' in good taste and ethical? (3) Are not the 'notices' in medical journals 'advertising' just as much as if they appeared in any other publication? Both are designed eventually to reach the people. (4) Is the following card, running in a newspaper in good taste, ethical, and proper?" To wit:

Dr. X. Y. Z. Blank
Surgeon and Gynaecologist
Hours, 2 to 4 p. m. or by appointment.
Office, Granite Block, Suite 23

Our correspondent concludes: "I believe that it is as proper to announce modestly your location and line of work in a paper as it is to do so by word of mouth."

While the propriety of publishing a "card," such as the foregoing, in lay publications, is an open question among leaders of the medical profession, we, personally, hold that there can be no objection whatever to such a simple announcement in a local newspaper. Were any extravagant claims made, it would be entirely different. It is unfortunate, of course, that this particular professional "card" should appear, as it does, sandwiched in between those of a "leading chiropodist" and that of an "optometrist," and adjacent to that of a "chiropractor." This doctor certainly does appear in dubious company; but that, of course, is the fault of the managing editor. The latter might readily separate the "sheep from the goats" and, without giving offense, place the cards of reputable physicians, attorneys, and other members of established professions in a classification by itself, arranging the optometrists, chiropractors, and semiprofessional people generally in another group.

In large cities, publication of a "card" in the newspapers is not deemed ethical, but almost every country practician has his announcements in the local newspapers, which is the medium of information. A

great deal, therefore, depends upon the local custom.

The professional "cards" printed in the medical journal mentioned, appearing, as they do, in a publication supposedly circulating among physicians only, are perfectly ethical and proper. Thus, for instance, there is no ethical reason why Dr. A. B. should not state that his practice is limited to genitourinary diseases and that he can be consulted only by appointment. It is just as proper for Dr. C. D. to state that he is a G-U man and is prepared to execute the Wassermann, the Noguchi, and the complement-fixation tests. In fact, it is generally accepted that ethical "cards" may present the name of the practician, his residence, office-hours, and his specialty, if he has one. We present this subject for further comment.

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Query 6265.—"Chillblains." F. D. P., Michigan, has under treatment a case of chillblains, which was contracted January, 1916, and persisted until the opening of spring; but, now, with the first cold spell of weather, the trouble is breaking out again, after remaining quiescent all this time. The patient, a woman, is of the socalled "bilious temperament" and takes enormous doses of chologog. Last winter, she bathed her feet in hot alum-water every night. Varying degrees of relief have followed the use of a mixture of 1 part of tincture of opium and 7 parts of dilute lead-water, applications of tincture of iodine, glycerine, poultices, flexible collodion (to constringe the local blood-vessels), and balsam of Peru. The question is what would be the best treatment.

We believe that your patient's chilblains can readily be cured by washing the feet with a good tar-soap and hot water, then applying camphor-menthol on gauze compresses. Balsam of Peru, drs. 2; carbenzol, drs. 2; lanolin, drs. 4, makes an excellent application. However, perhaps one of the most useful combinations is one composed of equal parts of camphor, chloral, and crystalline carbolic acid. This, after washing the feet well and drying, when applied with a camel's-hair brush, will promptly stop the itching.

Internally, give small doses of blue mass and soda, with podophyllin, at half-hourly intervals, every other night, for a week. Also strychnine and cactoid (or digipoten) three times a day, and the triple arsenates with nuclein after meals.

A coating of collodion in which orthoform has been dissolved has proven extremely useful in this writer's practice. Two or three coats should be applied at bedtime—always after the foot has been thoroughly soaked in hot (preferably salt) water. Resorcin with ichthyol and tannic acid may be used if the skin is unbroken; 1 part of each being dissolved in 5 parts of water and applied at bedtime. Also, tincture of benzoin applied freely after a hot salt foot-bath serves the purpose excellently. Always improve the circulatory conditions and give eliminants.

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Query 6266.—"Blue Scar Due to Carbon Deposit." C. O. R., Ohio, has a patient (a coal-miner) who some time ago was hit on the side of the face with a lump of coal and the wound left a blue scar, due to some coal remaining in the tissues. Our correspondent wishes to know how this discoloration can be removed.

Skin discolorations of this character are extremely difficult to remove, in most cases, excision being necessary; the fact that the insoluble substance is encapsulated explaining this difficulty. Microscopic examination of the tissue may show particles of pigment situated, in part, in the corium, but more often in the subcutaneous connective tissue itself. Practically the same condition obtains after tattooing; carbon (charcoal, India-ink, lampblack, etc.) or some similar substance being used for the black markings and, while it may be possible to remove superficial tattoo-marks, it sometimes is impossible to do so without an extensive plastic operation.

Ordinary slight tattoo-marks (powder-marks, etc.) often may be removed by pricking in hydrogen-dioxide solution. Or, under ethyl-chloride anesthesia (local), go over the area affected with a bunch of fine cambric needles tied with silk and dipped in glycerole of papayotin. To prepare the latter, take of papayotin, gr. 1; water, dr. 1; glycerin, drs. 3; dilute hydrochloric acid, gtt. 3. After thoroughly puncturing the tattooed area wipe off the blood and apply the fluid on gauze then bandage. Repeat the process, if necessary. Treat only a small part of the area at a time.

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Query 6267.—"Oil of Chenopodium in Uncinariasis."J. B. Oklahoma remembers having read in Clinical Medicine of a new remedy for hookworm but has forgotten its name. He wants to try it on a patient who cannot take thymol owing to its depressing effect. The doctor asks our aid.

You doubtless have in mind some article on oil of chenopodium. Schueffner and Ver-

voort after extensive experimentation reported that oil of chenopodium is superior to thymol, naphthol, and eucalyptus-oil in the treatment of hookworm-disease. An article on the same subject appeared in *Public Health Reports* of October 2 1914. Also in *The Journal of the A. M. A.* of 1914 there appeared a paper by Levy which detailed some experiences (at Johns Hopkins), in which oil of chenopodium not only was found to be an exceedingly effective vermifuge but comparatively nontoxic in therapeutic doses. Later Salant amd Livingston contributed an article to *The American Journal of Physiology* on the toxicity of oil of chenopodium. Personally we can confirm the statement there made that this oil varies materially according to the method of distillation and source of the seed. Comparatively small doses of some samples of oil of chenopodium may produce pronounced gastroenteritis or even convulsions in children while other specimens may be given in much larger amounts without causing any untoward effect.

It must be borne in mind that oil of chenopodium paralyzes but does not kill the worms so that they must be removed by means of free purgation, preferably with castor-oil. The single dose for a patient from six to eight years of age is 8 drops; 10 drops for one nine to ten years of age; 12 drops at eleven to sixteen years; and 12 to 16 drops for one over sixteen years. Schueffner and Vervoort administered 16 drops of oil of chenopodium every two hours for three doses, and two hours after the last dose a tablespoonful of castor-oil containing 1 fluid dram of chloroform. Personally, we should omit the latter.

The patient must be kept under observation during treatment, and, if sleepiness, depression or other untoward symptom is observed, the chenopodium must be stopped, active purgation induced, and stimulation instituted by means of strong coffee given by mouth or as an enema.

Should you try the oil of chenopodium in the case of your patient, we hope that you will report the result.

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Query 6268.—"Odontoma." B. O. G., Arkansas, has under treatment a man on the margin of whose upper jaw, between the gums and teeth, there is what seems to be some sort of hard deposit and which at first was thought to be a deposit of tartar, but later was found to be of bony structure. This osseous tumor is square at the base, but a symmetrical oval at the top. It is hard as bone, not sore, causes no pain, but there is some secretion about it all the time, and at night some blood. The gums are firm. The tumor has been there now about two years. The local doctors and dentists do not know what it is and say that they never saw anything like it.

Such tumors may be simple or malignant and in nearly every case it is safer to remove them while yet small, rather than wait until, by rapid growth or other definite sign, malignancy is placed beyond doubt. Quoting Keen, "The operation itself consists in removing a tooth on each side of the growth so as to gain access to the bone. Then with a saw and bone-forceps all of the alveolar process and the tumor is removed." In his "Practice of Surgery," Keen says that it has been found that any less radical operation, even in apparently nonmalignant cases, is likely to be followed by recurrence.

Myeloid sarcoma is a common form of epulis; it usually occurs as a rounded outgrowth from the alveolus and is of a dusky reddish-brown tint.

It is just possible, of course, that this may be follicular odontoma. These growths arise in connection with the formation of the permanent teeth, especially the molars, and sometimes attain large proportions, particularly when occurring in the upper jaw.

You will find a very interesting discussion of tumor diseases of the teeth and a reproduction of a skiagram of odontoma in Volume I of Keen's "Surgery," page 784.

We are inclined to suggest that this man be advised to consult a competent dental surgeon in one of the larger cities.

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Query 6269.—"Vertigo of Arteriosclerosis." E. H. N., Missouri, submits a specimen of urine from a patient sixty-three years old, a farmer who always has been a hard worker, uses tobacco moderately, but doesn't drink. At present, he voids from 2 to 4 quarts of urine a day. While he has always "felt good," he had the grip in December, 1915, he never since then has been well and has lost 35 pounds in weight; but, as he used to weigh 220 pounds, he had plenty to spare. His chief complaint is, weakness and vertigo. His appetite is good enough and he sleeps well. In the morning he feels very well, but soon his head begins to swim and he becomes very drowsy, and will sleep a good deal during the day, when he will allow himself. There

is no discoverable heart lesion, but moderate arteriosclerosis.

This patient will need careful watching, in order to prevent uremic or cerebral accidents. The total elimination of solids is low and the presence of indican and skatol indicates insufficient metabolism. The renal cells and granular casts found in his urine indicate that there is irritation of the kidneys, while the clinical history (vertigo), aside from the arteriosclerosis, is suggestive of circulatory disturbance in the brain.

This patient is sixty-three years old; always has been a hard worker; is of good habits; has a good appetite; sleeps well; feels well in the morning, but soon is troubled with dizziness; is drowsy and sleeps a good deal in the daytime, "when he will allow himself.' Here we have the evidences of the work that is put in by a mighty good physician—Dame Nature.

This man needs that sleep. He feels better after he has slept—and there is no reason on earth why he should not allow himself to indulge; the more so, as he may be said to have done his share in the course of his sixty-three years. Direct him to sleep an extra hour in the morning; then, after breakfast, to do some little work, without pushing himself, and to rest not less than two hours in the middle of the day. Then he may be allowed a moderate amount of work again, after which he is to rest once more.

Let the diet be simple and easily digested. Better forbid fried pork; although pork, well roasted (baked, really), is all right. Unless his teeth are good and he can chew well, it might be advisable to have his meat ground and prepared as, say, Hamburg steak; but he should partake of meat only sparingly. Milk, buttermilk, cereals, vegetables, and fruit will enable him to make out a sufficient dietary with your aid. It does not appear that this man needs much drugging, although iodine in some form (iron iodide or calcidin) will be of service. However, he should have galactenzyme tablets, taking three tablets between meals with a glass of milk.

THE INFLUENCE OF LIGHT UPON METABOLISM

While, in a general way, the influence of light upon metabolism is fairly well understood, almost nothing is known specifically about the chemical changes effected in the living body. This question has been approached more seriously by Dr. Pincussohn, of Berlin, who has reported his results thus far found to the Congress of Physiotherapy (*Muench. Med. Woch.*, 1913, No. 16).

As a starting point, this investigator has selected the purin-bodies; and he sensitized his experiment animals (white-furred dogs) with the fluorescent eosin, while a powerful arc-light was used for illumination. It has been definitely demonstrated by these experiments that the metabolic changes of the purin-bodies are markedly enhanced, in proportion to the intensity and duration of the transillumination. Albuminoids also are similarly influenced; but this question is not as yet closed.

It is clear that these observations are bound to play a role in the management of diseases in which the chemistry of the purin-bodies is involved, notably gout and its congeners.

THE VACCINE-TREATMENT OF ASTHMA

It has been said truly that the multiplicity of drugs that are recommended for the treatment of any particular disease bears witness in an inverse ratio to our knowledge concerning that disorder. Among the diseases for the treatment of which a great variety of remedies have been recommended at different times, is asthma.

In recent years, those cases of asthma in which a bacterial cause could be shown to exist have been treated with more or less success along biologic lines. It would be a mistake to assume that the use of bacterins or vaccines always is successful, even though this often happens. In the last number of *The Practitioner* (1916, p. 573), however, Sir Leonard Rogers, of Calcutta, where the disease is particularly prevalent, reports a series of cases of asthma treated successfully with bacterins. These were always autogenous and consisted largely of diplococci and streptococci; several varieties of each organism being present. Rogers expresses regret that he has not been able, for the lack of time, to work out his method in detail, but the reports which he presents certainly are very encouraging and promise well for similar attempts.

This observation is certainly intensely interesting and suggestive. It immediately raises a score of questions in our own minds: For instance, is asthma in India the same in character as asthma in the United States? If so, are the microbes found in these cases causative, contributive, or merely accidental? What will autogenous bacterins do for *our* patients? Would germicidal substances be of any value in our therapy?

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Clinical medicine

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